**VENTURA COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION**

**Review of Economic Actuarial Assumptions
for the June 30, 2012 Actuarial Valuation**

SEGAL

THE SEGAL COMPANY

**100 Montgomery Street, Suite 500
San Francisco, CA 94104**

June 21, 2012

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572

**Re: Review of Economic Actuarial Assumptions
for the June 30, 2012 Actuarial Valuation**

Dear Members of the Board:

We are pleased to submit this report of our review of the June 30, 2012 economic actuarial assumptions for the Ventura County Employees' Retirement Association. This report includes our recommendations and the analysis supporting their development.

Please note that we have also reviewed the non-economic actuarial experience for the three-year period from July 1, 2008 to June 30, 2011. The non-economic actuarial assumption recommendations were provided in a separate report.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

Paul Angelo, FSA, EA, MAAA, FCA
Senior Vice President and Actuary

John W. Monroe, ASA, MAAA, EA
Vice President and Associate Actuary

AW/hy

5193999v1/05325.104

TABLE OF CONTENTS

Page

I. INTRODUCTION, SUMMARY, AND RECOMMENDATIONS

To project the cost and liabilities of the pension fund, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are modified, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions in effect assumes that experience was temporary and that, over the long run, experience will return to what was originally assumed. Changing assumptions reflects a basic change in thinking about the future, and it has a much greater effect on the current contribution requirements than recognizing gains or losses as they occur.

The use of realistic actuarial assumptions is important to maintain adequate funding, while paying promised benefit amounts to participants already retired and to those near retirement. The actuarial assumptions used do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to review the economic actuarial assumptions. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27, "Selection of Economic Assumptions for Measuring Pension Obligations." This Standard of Practice puts forth guidelines for the selection of the economic actuarial assumptions utilized in a pension plan actuarial valuation.

SEGAL
THE SEGAL COMPANY

We are recommending changes in the assumptions for investment return and inflation. We are recommending no change in the "across the board" salary increase assumption. The promotional and merit salary increase assumption was reviewed in the triennial actuarial experience study of non-economic assumptions performed earlier this year. Our recommendations for the economic actuarial assumptions for the June 30, 2012 actuarial valuation are as follows:

Investment Return – The estimated average future net rate of return on current and future assets of the Association as of the valuation date. This rate is used to discount liabilities.
Recommendation: Reduce the rate from 8.00% per annum to 7.75% per annum.

Inflation – Future increases in the Consumer Price Index (CPI) which drive investment returns and active member salary increases, as well as cost-of-living adjustments (COLAs) for retirees.
Recommendation: Reduce the rate from 3.50% per annum to 3.25% per annum.

Individual Salary Increases – Increases in the salary of a member between the date of the valuation and the date of separation from active service. This assumption has three components:

> ➤ Inflationary salary increases,

> ➤ Real "across the board" salary increases, and

> ➤ Promotional and merit increases.

Recommendation: Reduce the current inflationary salary increase assumption from 3.50% to 3.25% and maintain the current real "across the board" salary increase assumption at 0.75%. This means that the combined inflationary and real "across the board" salary increases will decrease from 4.25% to 4.00%. Please note that the promotional and merit increase assumption recently adopted by the Board ranges from 0.50% to 8.50% and is a function of a member's years of service. The promotional and merit increase assumption was reviewed as part of our triennial actuarial experience study of non-economic assumptions.

Section II provides some background on basic principles and the methodology used for the review of the economic actuarial assumptions. A detailed discussion of each of the economic assumptions and the reasons behind the recommendations is found in Section III.

SEGAL
THE SEGAL COMPANY

II. BACKGROUND AND METHODOLOGY

For this study, we analyzed the "economic" assumptions only. Our analysis of the "non-economic" assumptions for the June 30, 2012 valuation has been provided in a separate report. The primary economic assumptions reviewed are inflation, investment return, and salary increases.

Economic Assumptions

Economic assumptions consist of:

Inflation – Increases in the price of goods and services. The inflation assumption reflects the basic return that investors expect from securities markets. It also reflects the expected basic salary increase for active employees and drives increases in the allowances of retired members.

Investment Return – Expected long-term rate of return on the Association's investments after expenses. This assumption has a significant impact on contribution rates.

Salary Increases – In addition to inflationary increases, it is assumed that salaries will also grow by real "across the board" pay increases in excess of price inflation. It is also assumed that employees will receive raises above these average increases as they advance in their careers. These are commonly referred to as promotional and merit increases. Payments to amortize any Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase each year by the price inflation rate plus any real "across the board" pay increases that are assumed.

The setting of these assumptions is described in Section III.

III. ECONOMIC ASSUMPTIONS

A. INFLATION

Unless an investment grows at least as fast as prices increase, investors will experience a reduction in the inflation-adjusted value of their investment. There may be times when "riskless" investments return more or less than inflation, but over the long term, investment market forces will generally require an issuer of fixed income securities to maintain a minimum return which protects investors from inflation.

The inflation assumption is long term in nature, so it is set using primarily historical information. Following is an analysis of 15-year and 30-year moving averages of historical inflation rates:

Historical Consumer Price Index – 1930 to 2011

(U.S. City Average - All Urban Consumers)			
	25th Percentile	Median	75th Percentile
15-year moving averages	2.7%	3.5%	4.8%
30-year moving averages	3.3%	4.2%	5.0%

The average inflation rates have continued to decline gradually over the last several years due to the relatively low inflationary period over the past two decades. Also, the later of the 15-year averages during the period are lower as they do not include the high inflation years of the mid-1970s and early 1980s.

In the 2011 public fund survey published by the National Association of State Retirement Administrators, the median inflation assumption used by 126 large public retirement funds in their 2010 valuations has remained unchanged from the 3.50% used in the 2009 valuations. We note that these state systems tend to be slow to adjust their assumptions and so may lag behind emerging practice.

VCERA's investment consultant, Hewitt Ennis Knupp, anticipates an annual inflation rate of 2.10%. Note that, in general, the investment consultants' time horizon for this assumption is shorter than the time horizon we use for the actuarial valuation.

To find a forecast of inflation based on a longer time horizon, we referred to the 2012 report on the financial status of the Social Security program. The projected average increase in the Consumer Price Index (CPI) over the next 75 years under the intermediate cost assumptions used in that report was 2.8%. We also compared the yields on the thirty-year inflation indexed U. S. Treasury bonds to

comparable traditional U. S. Treasury bonds. As of May 2012, the difference in yields is 2.25%, which provides a measure of market expectations of inflation.

Based on all of the above information, we recommend that the current 3.50% annual inflation assumption be reduced to 3.25% for the June 30, 2012 valuation.

B.   INVESTMENT RETURN

The investment return assumption is comprised of two primary components, inflation and real rate of investment return, with adjustments for expenses and risk.

Real Rate of Investment Return

This component represents the portfolio's incremental investment market returns over inflation. Theory has it that as an investor takes a greater investment risk, the return on the investment is expected to also be greater, at least in the long run. This additional return is expected to vary by asset class and empirical data supports that expectation. For that reason, the real rate of return assumptions are developed by asset class. Therefore, the real rate of return assumption for a retirement system's portfolio will vary with the Board's asset allocation among asset classes.

The following is the Association's current target asset allocation and the assumed real rate of return assumptions by asset class. The first column of real rate of return assumptions are determined by netting Hewitt Ennis Knupp's total return assumptions by their assumed 2.10% for inflation. The second column of returns (except for Private Equity) represents the average of a sample of real rate of return expectations. The sample includes the expected annual real rate of returns provided to us by Hewitt Ennis Knupp and eight other investment advisory firms retained by Segal's California public sector retirement system clients. We believe these averages reflect a reasonable consensus forecast of long-term future market returns.

SEGAL
THE SEGAL COMPANY

VCERA's Target Asset Allocation as of June 30, 2012 and Assumed Arithmetic Real Rate of Return Assumptions by Asset Class and for the Portfolio

Asset Class	Percentage of Portfolio	Hewitt Ennis Knupp's Assumed Real Rate of Return[1]	Average Real Rate of Return from a Sample of Consultants to Segal's California Public Sector Clients[2]
US Equity	39.00%	7.34%	6.22%
Developed International Equity	21.00	8.91	6.78
Core Bonds	16.25	1.53	1.06
Credit Strategies	3.75	4.75	4.18
Global Bonds	5.00	1.81	1.45
Real Estate	10.00	6.30	5.05
Private Equity	5.00	11.08	11.08[3]
Total Portfolio	100.00%	6.44%	5.31%

[1] *Derived by netting Hewitt Ennis Knupp's rate of return assumptions by their assumed 2.10% inflation rate; gross of any applicable investment expenses.*

[2] *These are based on the projected arithmetic returns provided by the investment advisory firms serving the county retirement systems of Ventura, San Bernardino, Alameda, Contra Costa, Fresno, Orange, the LA City Employees' Retirement System, LA Department of Water and Power Retirement Plan and the LA Fire & Police Pensions. These return assumptions are gross of any applicable investment expenses.*

[3] *For this asset class Hewitt Ennis Knupp's assumption is applied in lieu of the average because there is a larger disparity in returns for this asset classes among the firms surveyed and using Hewitt Ennis Knupp's assumption should more closely reflect the underlying investments made specifically for VCERA.*

Please note that the above are representative of "indexed" returns and do not include any additional returns ("alpha") from active management. This is consistent with the Actuarial Standard of Practice No. 27, Section 3.6.3.e, which states:

> "Investment Manager Performance — Anticipating superior (or inferior) investment manager performance may be unduly optimistic (or pessimistic). Few investment managers consistently achieve significant above-market returns net of expenses over long periods."

The following are some observations about the returns provided above:

1. The investment consultants to our California pubic sector clients have each provided us with their expected real rates of return for each asset class, over various future periods of time. However, in general, the returns available from investment consultants are projected over time periods shorter than the duration of a retirement plan's liabilities.

2. Using an average of expected real rates of return allows the Association's investment return assumption to reflect a broader range of capital market information and should help reduce year to year volatility in the Association's investment return assumption.

3. Therefore, we recommend that the 5.31% portfolio real rate of return be used to determine the Association's investment return assumption. This is 0.16% lower than the corresponding real rate of return that was used three years ago, which in turn was based on our survey of real returns from two years earlier, i.e., 2007. This difference is due to lower expected real returns by asset classes provided to us by the investment advisory firms since 2007 (-0.64%) offset by an increase due to changes in the Association's target asset allocation (+0.48%).

Association Expenses

The real rate of return assumption for the portfolio needs to be adjusted for administrative and investment expenses expected to be paid from investment income.

The following table provides these expenses in relation to the actuarial value of assets for the five years ending June 30, 2012.

SEGAL
THE SEGAL COMPANY

Administrative and Investment Expenses as a Percentage of Actuarial Value of Assets
(All dollars in 000's)

FYE	Actuarial Value of Assets[1]	Administrative Expenses	Investment Expenses[2]	Administrative %	Investment %	Total %
2007	$2,793,666	$2,589	$7,666	0.09%	0.28%	0.37%
2008	3,107,222	3,370	8,051	0.11	0.26	0.37
2009	3,112,308	3,535	6,451	0.11	0.21	0.32
2010	3,134,978	4,081	6,629	0.13	0.21	0.34
2011	3,236,217	4,387	7,789	0.14	0.24	0.38
Average				0.12%	0.24%	0.36%

[1] *As of end of plan year*

[2] *Net of securities lending expenses. Because we do not assume any additional net return for this program, we effectively assume that any expenses will be offset by related income.*

The average expense percentage over this five-year period is 0.36%. Based on this experience, we have maintained the future expense assumption component at 0.40%. This assumption will be re-examined in subsequent assumption reviews as new data becomes available.

Risk Adjustment

The real rate of return assumption for the portfolio is adjusted to reflect the potential risk of shortfalls in the return assumptions. The Association's asset allocation also determines this portfolio risk, since risk levels are driven by the variability of returns for the various asset classes and the correlation of returns among those asset classes. This portfolio risk is incorporated into the real rate of return assumption through a risk adjustment.

The purpose of the risk adjustment (as measured by the corresponding confidence level) is to increase the likelihood of achieving the actuarial investment return assumption in the long term. The 5.31% expected real rate of return developed earlier in this report was based on expected mean or average arithmetic returns. This means there is a 50% chance of the actual return in each year being at least as great as the average (assuming a symmetrical distribution of future returns). The risk adjustment is intended to increase that probability. This is consistent with our experience that retirement plan fiduciaries would generally prefer that returns exceed the assumed rate more often than not.

Three years ago, Segal recommended an investment return assumption of 7.75%, however, the Board adopted an investment return assumption of 8.00%. In combination with the inflation, real return and expense components from three years ago, the return assumption adopted implied a risk adjustment of 0.57%, reflecting (coincidentally) a confidence level of 57% that the actual average return over 15

SEGAL
THE SEGAL COMPANY

years would not fall below the assumed return, assuming that the distribution of returns over that period follows the normal statistical distribution.[1]

In our model, the confidence level associated with a particular risk adjustment represents the likelihood that the actual average return would equal or exceed the assumed value over a 15-year period. For example, if we set our real rate of return assumption using a risk adjustment that produces a confidence level of 60%, then there would be a 60% chance (6 out of 10) that the average return over 15 years will be equal to or greater than the assumed value. The 15-year time horizon represent an approximation of the "duration" of the fund's liabilities, where the duration of a liability represents the sensitivity of that liability to interest rate variations.

If we use the same 57% confidence level from the return assumption adopted three years ago to set this year's risk adjustment, based on the current long-term portfolio standard deviation of 13.5% provided by Hewitt Ennis Knupp, the result is a risk adjustment of 0.67%. Together with the other investment return components, this produces a net investment return assumption of 7.49%, which is substantially lower than the current assumption of 8.00%.

Because this would be such a substantial change in this long term assumption, we evaluated the effect on the confidence level of an alternative investment return assumption. In particular, a net investment return assumption of 7.75%, together with the other investment return components, would produce a risk adjustment of 0.41%, which corresponds to a confidence level of 54%.

We note that the risk adjustment model and associated confidence level is most useful as a means for comparing how the Association has positioned itself relative to risk over periods of time.[2] The use of a 54% confidence level should be considered in context with other factors, including:

1. As noted above, the confidence level is more of a relative measure than an absolute measure, and so can be reevaluated and reset for future comparisons. Note that Segal's other California public retirement system clients generally have risk adjustments corresponding to confidence levels in the range of 50% to 60%.

---

[1] Based on an annual portfolio return standard deviation of 11.41% provided by Hewitt Ennis Knupp in 2007. Strictly speaking, future compounded long-term investment returns will tend to follow a log-normal distribution. However, we believe the Normal distribution assumption is reasonable for purposes of setting this type of risk adjustment.

[2] In particular, it would not be appropriate to use this type of risk adjustment as a measure of determining an investment return rate that is "risk-free."

SEGAL
THE SEGAL COMPANY

2. The confidence level is based on the standard deviation of the portfolio that is determined and provided to us by Hewitt Ennis Knupp. The standard deviation is a statistical measure of the future volatility of the portfolio and so is itself based on assumptions about future portfolio volatility and can be considered somewhat of a "soft" number.

3. A lower level of inflation should reduce the overall risk of failing to meet the investment return assumption. Lowering the confidence level to some extent could be justified as consistent with the change in the inflation assumption.

4. As with any model, the results of the risk adjustment model should be evaluated for reasonableness and consistency. This is discussed in the following "Test of Risk Adjustment" section, including (1) a discussion of the relationship between the inflation assumption and the risk adjustment and (2) a comparison with assumptions adopted by similarly situated public sector retirement systems.

Taking into account the factors above, our recommendation is for a change in the net investment return assumption from 8.00% to 7.75%. In terms of our "risk adjustment" methodology, this return implies a risk adjustment of 0.41%, reflecting a confidence level of 54% that the actual average return over 15 years would not fall below the assumed return.

Recommended Investment Return Assumption

The following table summarizes the components of the investment return assumption developed in the previous discussion. For comparison purposes, we have also included similar values from the last study.

Calculation of Net Investment Return Assumption

Assumption Component	June 30, 2012 Valuation Recommended Value	June 30, 2009 Valuation Adopted Value
Inflation	3.25%	3.50%
Plus Portfolio Real Rate of Return	5.31%	5.47%[3]
Minus Expense Adjustment	(0.40)%	(0.40)%
Minus Risk Adjustment	(0.41)%	(0.57)%
Total	7.75%	8.00%

[3] *Note that this weighted real return was taken from the 2007 review of economic assumptions.*

Based on this analysis, we recommend that the investment return assumption be reduced from 8.00% to 7.75% per annum. Our analysis indicates that in order to be consistent with the current assumption on a risk-adjusted basis, the Board should even consider a 7.50% investment return assumption with a corresponding 57% confidence level.

Test of the Risk Adjustment

The original development of the risk adjustment component of our investment earnings model arose from our experience with many retirement boards over many years. We consistently observed that combining the board's inflation assumption with the real return and expense components (i.e., using no risk adjustment) produced – and produces – a substantially higher assumed return than what the boards actually adopt, regardless of the consulting actuary or the methods involved in the process. This led to the development of a risk adjustment component for our model.

There is a range of risk adjustment methodologies that may be incorporated in the development of an earnings assumption. Ideally, the particular risk adjustment selected should reflect the "downside" risk tolerance of the boards making the decision. This is similar to the volatility risk that boards consider when selecting an appropriate asset allocation.

In addition to the generally risk adverse attitude of retirement plan boards as noted above, we believe another reason for the use of a risk adjustment is to control the risk of overstating the effect of the inflation assumption on the assumed investment return. As noted earlier, the inflation assumption for actuarial valuations is generally longer term than that used by investment consultants. For many years, that has led to higher actuarial valuation inflation assumptions. A higher inflation assumption has a conservative effect – higher current cost – on the wage increase and COLA assumption, but is <u>less</u> conservative as part of the investment earnings assumption. In effect, the risk adjustment compensates for this by offsetting the effect of the higher inflation assumption on assumed investment earnings.

One way to test the reasonableness of the risk adjustment incorporated in our recommendation is to compare our risk adjusted investment return (i.e., 7.75%) against the expected net investment return that would result from using the average of all the capital market assumptions – including the lower inflation assumptions – of the investment consultants in our sample.

The following table shows that comparison. This table shows how the difference between our recommended return and that derived using the average of all the capital market assumptions of the investment consultants in our sample can be attributed to the relationship between the two different inflation assumptions and the risk adjustment.

Assumption Element	Risk Adjusted Investment Return	Average of Investment Consultant Sample	Difference
Inflation	3.25%	2.60%	0.65%
Risk Adjustment	(0.41)%	0.00%	(0.41)%
Real Rate of Return	5.31%	5.31%	0.00%
Expenses	(0.40)%	(0.40)%	0.00%
Total	7.75%	7.51%	0.24%

This indicates that with the lower confidence level the risk adjustment offsets about two-thirds of the effect of using an inflation assumption higher than that used in the capital market assumptions. The resulting 0.24% (24 basis points) difference between the two calculations represents about a 2% lower confidence level under the risk adjusted method. Note that this is generally consistent with the difference between the 57% confidence level from the 2009 valuation and the 54% confidence level associated with the recommended investment return assumption of 7.75%.

Comparing with Other Public Retirement Systems

One final test of the recommended investment return assumption is to compare it against those used by other public retirement systems, both in California and nationwide.

We note that this 7.75% investment return assumption is within the most common range for this assumption among most California public sector retirement systems. That range, with few exceptions, is from 7.50% to 8.00%. However, two of the largest California systems, CalPERS and LACERA, have recently adopted a 7.50% earnings assumption. Note that CalPERS uses a lower inflation rate of 3.00%, while LACERA uses a comparable inflation assumption of 3.25%.

SEGAL
THE SEGAL COMPANY

The following table compares the VCERA recommended net investment return assumptions against those of the nationwide public retirement systems that participated in the National Association of State Retirement Administrators (NASRA) 2010 Public Fund Survey.

Assumption	VCERA	NASRA 2010 Public Fund Survey		
		Low	Median	High
Net Investment Return	7.75%	7.00%	8.00%	8.50%

As you can see, the recommended return assumption is below the median. The detailed survey results show 47 systems at 8.00%, 38 at 7.50% or 7.75%, and 22 at 8.25% or 8.50%. The survey also notes that several plans have reduced their investment return assumption during the last year, and others are considering doing so. As noted earlier in our discussion of inflation, state systems outside California tend to change their economic assumptions slowly and so may lag behind emerging practices in this area.

In summary, while we believe that both the risk adjustment model and other considerations indicate a lower earnings assumptions, the model result of 7.49% (leaving the confidence level unchanged) appears to be a significantly large change for a long term assumption. The recommended assumption of 7.75% continues to provide for some risk margin within the risk adjustment model and is consistent with the Association's current practice relative to other public systems.

C. SALARY INCREASE

Salary increases impact plan costs in two ways: (i) by increasing members' benefits (since benefits are a function of the members' highest average pay) and future normal cost collections; and (ii) by increasing total active member payroll which in turn generates higher UAAL amortization payments (or higher amortization credits if the UAAL is negative). These two impacts are discussed separately below.

As an employee progresses through his or her career, increases in pay are expected to come from three sources:

1. Inflation – Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed

inflation, but over the long term, labor market forces will require an employer to maintain its employees' standards of living.

As discussed earlier in this report, we are recommending that the assumed rate of inflation be reduced from 3.50% to 3.25%. This inflation component is used as part of the salary increase assumption.

2. Real "Across the Board" Pay Increases – These increases are sometimes termed productivity increases since they are considered to be derived from the ability of an organization or an economy to produce goods and services in a more efficient manner. As that occurs, at least some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees "across the board." The State and Local Government Workers Employment Cost Index produced by the Department of Labor provides evidence that real "across the board" pay increases have averaged about 0.6% to 0.8% annually during the last ten to twenty years.

   We also referred to the annual report on the financial status of the Social Security program published in April 2012. In that report, real "across the board" pay increases are forecast to be 1.1% per year under the intermediate assumptions.

   The real pay increase assumption is generally considered a more "macroeconomic" assumption, that is not necessarily based on individual plan experience. However, we note that the actual average inflation plus "across the board" increase (i.e., wage inflation) over the three-year experience period was 1.7%.

   Considering these factors, we recommend maintaining the real "across the board" salary increase assumption at 0.75%. This means that the combined inflation and "across the board" salary increase assumption will decrease from 4.25% to 4.00%.

3. Promotional and Merit Increases – As the name implies, these increases come from advances in an employee's career. This form of pay increase differs from the previous two, since it is specific to the individual. For VCERA, there are service-specific assumed promotional and merit increases. The assumed increases range from 8.50% early in the employee's career to 0.50% in the later years. This assumption was derived from employee-specific information as part of the actuarial experience study for non-economic assumptions.

For the June 30, 2012 valuation, the Board already adopted the promotional and merit increases that were developed in our 2008-2011 triennial actuarial experience study.

All three of these forces will be incorporated into a salary increase assumption which is applied in the actuarial valuation to project future benefits and future normal cost contribution collections.

Active Member Payroll

Projected active member payrolls are used to develop the UAAL contribution rate. Future values are determined as a product of the number of employees in the workforce and the average pay for all employees. The average pay for all employees is assumed to increase only by inflation and real "across the board" pay increases. The merit and promotional increases are not an influence, because this average pay is not specific to an individual.

We recommend that the active member payroll increase assumption be decreased from 4.25% to 4.00% annually, consistent with the combined inflation plus real "across the board" salary increase assumptions.

IV.   COST IMPACT OF ECONOMIC ASSUMPTION CHANGES

The tables below show the changes in the employer and member contribution rates due to the recommended economic assumption changes as if they were applied in the June 30, 2011 actuarial valuation along with the changes in demographic assumptions and funding policy already adopted by the Board. If all of the proposed economic assumption changes were implemented, the Plan's average employer rate would have increased by 1.48% of compensation. The average member rate would have increased by 0.19% of compensation. The Plan's UAAL would have increased by $101 million.

Employer Contribution Rate Impact (% of Compensation)

Contributions	General Tier 1	General Tier 2	General Tier 2C	Safety	Overall
Normal Cost	0.28%	0.21%	0.30%	0.53%	0.33%
UAAL	4.65%	0.60%	0.67%	2.20%	1.15%
Total	4.93%	0.81%	0.97%	2.73%	1.48%

Employer Contribution Rate Impact (Estimated Annual Dollar Amounts in Thousands)

Contributions	General Tier 1	General Tier 2	General Tier 2C	Safety	Overall
Total	$793	$1,696	$2,387	$4,397	$9,273

Member Contribution Rate Impact (% of Compensation)

Contributions	General Tier 1	General Tier 2	General Tier 2C	Safety	Overall
Total	0.25%	0.12%	0.12%	0.39%	0.19%

Member Contribution Rate Impact (Estimated Annual Dollar Amounts in Thousands)

Contributions	General Tier 1	General Tier 2	General Tier 2C	Safety	Overall
Total	$39	$237	$270	$619	$1,165

SEGAL
THE SEGAL COMPANY