ACTUARIAL REVIEW

OF THE

July 1, 2013 Actuarial Valuation

of the

Florida Retirement System

FOR THE

OFFICE OF PROGRAM POLICY ANALYSIS AND GOVERNMENT ACCOUNTABILITY

Submitted by:

GRS

Gabriel Roeder Smith & Company

June 24, 2014

TABLE OF CONTENTS

GRS
Gabriel Roeder Smith & Company
Consultants & Actuaries
One East Broward Blvd.
Suite 505
Ft. Lauderdale, FL 33301-1804
954.527.1616 phone
954.525.0083 fax
www.gabrielroeder.com

June 24, 2014

Mr. R. Philip Twogood, Ph.D.
Coordinator
Government Operations Policy Area
Office of Program Policy Analysis
and Government Accountability
111 West Madison St., Suite 312
Tallahassee, Florida 32399-1475

Re: FRS Actuarial Review

Dear Mr. Twogood:

As requested, we have completed our actuarial review of the July 1, 2013 Actuarial Valuation Report of the Florida Retirement System (FRS) prepared by Milliman, FRS actuaries.

Based upon this actuarial review, we find the actuarial assumptions and methods generally appropriately develop actuarial values of the System. We have also replicated key financial results of the July 1, 2013 Actuarial Valuation and find no material differences in the valuation results.

Our specific findings are:

1. The Department of Management Services' actuaries are generally in compliance with the requirements of Florida Statutes, Department rules, government accounting standards and actuarial standards of practice regarding their actuarial valuation of FRS.

   While the 4% payroll growth assumption may not be unreasonable, based upon the information in the actuarial valuation report, we are unable to ascertain whether the 4% payroll growth assumption is in compliance with F.S., 112.64(5)(a). Milliman, FRS actuaries, state ... *the techniques and assumptions used, other than the assumption used for future payroll growth for amortization purposes are reasonable and meet the intent of Part VII, Chapter 112, Florida Statutes. As noted previously, the payroll growth assumption was adopted by the FRS Assumptions Conference.*

   Government Accounting Standards Board Statement 27 (GASB 27) may also require use of a statutorily compliant payroll growth assumption for accounting disclosures.

   We understand GASB Statement 25 was replaced by GASB Statement 67 for accounting disclosure for System year July 1, 2013 through June 30, 2014. We may have expected

the July 1, 2013 Actuarial Valuation Report to include GASB Statement 67 projections - not GASB Statement 25 references and information.

2. The Department's actuaries for the most part use generally accepted actuarial cost methods, bases for assumptions and reporting standards. We believe the ultimate or replacement variation of the entry-age-normal actuarial cost method is aggressive and combined with a maximum 30-year amortization period may not be compliant with F.S., 112.61 based upon the facts and circumstances of FRS. GASB Statements 67 and 68 do not allow use of the ultimate or replacement variation of the entry-age-normal actuarial cost method for accounting purposes.

   We believe Milliman's practice of not fully recognizing expected future DROPs in the retirement assumptions for funding may not be reasonable. Milliman, FRS actuaries, state … *With the exception of the retirement assumption used in Sections III and IV per the legislative directives noted above, we believe the assumptions and methods used are reasonable*. We understand Milliman is using retirement assumptions fully reflecting expected future DROPs for GASB 27 accounting purposes.

   We believe writing down the amortization bases by expected amortization payments when expected amortization payments have not been paid may not be consistent with the 30-year maximum amortization period requirement of F.S., 112.64(4).

   We have identified areas where documentation and considerations or refinements may be warranted.

3. The specific economic and demographic assumptions used are arrived at from a sufficient level of detail considered and are generally reasonable in light of recent experience. While not unreasonable, as noted in prior years, the assumed inactive healthy mortality rates appear conservative. As above, the 4% payroll growth assumption and the retirement rates not fully recognizing expected future DROPs may not be reasonable in light of recent System experience.

4. The Department's actuaries provide sufficient information as to the causes of gains, losses and net change in the unfunded liability to allow evaluation of specific factors. While much information is provided, additional disclosures and refinements may add value.

5. The Department's actuaries' actuarial report for the most part adequately provides necessary information that another actuary, unfamiliar with the situation, would require to appraise the findings and arrive at reasonably similar results. FRS is a complicated System. We have identified information of a comparative nature that would be helpful in this regard.

6. We have found other aspects of the Department's actuaries' report where further disclosure and further consideration may be warranted.

We wish to thank Mr. Garry Green and Mr. Robert Dezube of Milliman for their assistance without which this review could not have been completed.

We look forward to responding to any questions or comments from the interested parties. If you should have any questions concerning the above, please do not hesitate to contact us.

Sincerest regards,

L. F. Wilson

Lawrence F. Wilson, A.S.A., E.A.
Senior Consultant and Actuary

Jennifer Borregard

Jennifer M. Borregard, E.A.
Consultant and Actuary

Enclosure

Introduction

I. Introduction

As a matter of policy the Office of Program Policy Analysis and Government Accountability (OPPAGA) engages an independent reviewing actuary to conduct various actuarial reviews and analyses. The scope of this work includes an actuarial review of the annual actuarial valuation report and periodic experience study.

The work to be reviewed is produced by the current Department of Management Services' actuaries - Milliman with Mr. Robert Dezube as FRS actuary.

This actuarial review is a review of the July 1, 2013 Actuarial Valuation Report and includes a replication of the July 1, 2013 Actuarial Valuation liabilities.

The scope of this project is limited to reviewing the work of Milliman to the degree necessary to express opinions regarding the accuracy and reasonableness of the following:

1. Compliance with the requirements of Florida Statutes, Department rules, government accounting standards and actuarial standards of practice regarding their actuarial valuation of FRS.
2. Use of generally accepted actuarial cost methods, bases for assumptions and reporting standards.
3. Use of specific economic and demographic assumptions arrived at from a sufficient level of detail considered and are generally reasonable in light of recent experience.
4. Provision of sufficient information as to the causes of gains, losses and net change in the unfunded liability to allow evaluation of specific factors.
5. Adequacy of actuarial report in providing necessary information that another actuary, unfamiliar with the situation, would find information to appraise the findings and arrive at reasonably similar results.
6. Aspects of the Department's actuaries work and report that are insufficient.

Executive Summary

II. Executive Summary

We have reviewed the July 1, 2013 Actuarial Valuation Report prepared by Milliman (Department of Management Service's retained valuation actuaries). We find the actuarial assumptions and methods generally develop appropriate actuarial values for FRS. We have also replicated the results of the July 1, 2013 Actuarial Valuation and find no material differences in the valuation results.

In reviewing actuarial assumptions and methods, it is important to recognize that there is not a single *correct* set of actuarial assumptions and methods. There is a range of reasonableness within which individual assumptions, methods and the entire valuation basis may fall. Assumptions may be characterized as conservative (producing relatively higher near term contributions) or aggressive (producing relatively lower near term contributions) within this range. Alternate acceptable actuarial assumptions and methods impact the incidence of required contributions.

In this light, we have the following comments on the July 1, 2013 Actuarial Valuation.

1. **Compliance with requirements of the Florida Statutes, Department rules, government accounting standards and actuarial standards of practice:** In general, the actuarial valuation is compliant with these requirements.

   While the 4% payroll growth assumption may not be unreasonable, based upon the information in the actuarial valuation report, we are unable to ascertain whether the 4% payroll growth assumption is in compliance with F.S., 112.64(5)(a). Milliman, FRS actuaries, state … *the techniques and assumptions used, other than the assumption used for future payroll growth for amortization purposes are reasonable and meet the intent of Part VII, Chapter 112, Florida Statutes. As noted previously, the payroll growth assumption was adopted by the FRS Assumptions Conference*.

   Government Accounting Standards Board Statement 27 (GASB 27) may also require use of a statutorily compliant payroll growth assumption for accounting disclosures.

   We estimate use of the 4% payroll growth assumption as opposed to a 0% payroll growth assumption derived from recent disclosed System experience understates the amortization component of the total required contributions from 2.25% - 2.50% of covered payroll. We estimate the dollar amount of the understatement of the amortization component to range from $635 million to $700 million.

   We understand GASB Statement 25 was replaced by GASB Statement 67 for accounting disclosure for System year July 1, 2013 through June 30, 2014. We may have expected the July 1, 2013 Actuarial Valuation Report to include GASB Statement 67 projections - not GASB Statement 25 references and information.

2. **Use of generally accepted actuarial cost methods, bases for assumptions and reporting standards:** In general, the Actuarial Valuation meets these requirements. We believe the *ultimate* or *replacement* variation of the entry-age-normal actuarial cost method is aggressive may not be compliant with State statute based upon the facts and circumstances of FRS when combined with the use of a maximum 30-year amortization period. GASB Statements 67 and 68 preclude use of the *ultimate* or *replacement* variation of the entry-age-normal actuarial cost method for accounting purposes.

   Treatment of the Deferred Retirement Option Program (DROP) continues to be somewhat nontraditional. The continued nontraditional treatment of the DROP appears to have a significant impact on the size of the reported unfunded accrued liability ($21.6 billion not fully recognizing expected future DROPs vs. $22.4 billion fully recognizing expected future DROPs) - an understatement of unfunded accrued liability in the amount of $0.8 billion.

   Writing down the amortization bases by the expected payment when less than the actuarially required expected payment is contributed is aggressive since this deficiency (shortfall of the contribution vs. the actuarially required expected amortization payment) is included in the actuarial gain / loss and amortized over a new 30-year period in lieu of the remaining period of the outstanding amortization bases.

   We understand GASB Statement 25 was replaced by GASB Statement 67 for System accounting disclosures for System year July 1, 2013 - June 30, 2014. We may have expected GASB Statement 67 projections and not GASB Statement 25 references and information.

3. **Economic and demographic assumptions arrived at from a sufficient level of detail considered and collective effect of all assumptions:** For the most part, the actuarial assumptions are reasonably related to plan experience based upon the results of the latest Experience Study. The actuarial assumptions developed from the Experience Study have been modified based upon Milliman's Studies on House Bill 479 and Senate Bill 2100. While not unreasonable, the inactive healthy mortality rates continue to appear conservative. We find the actuarial assumptions internally consistent including consistent recognition of anticipated inflation in the economic assumptions.

4. **Disclosure of sources of gains and losses:** Actuarial gains and losses are identified by source in sufficient detail to evaluate specific factors (i.e. investment return, salary increases, etc.). The reported actuarial loss for the year ended June 30, 2013 was $1.165 billion based upon the System provisions / actuarial assumptions in the July 1, 2012 Actuarial Valuation – a $1.502 billion loss on liabilities offset by a $337 million gain on the smoothed actuarial value of investments. For the previous year ended June 30, 2012, there was a reported actuarial gain of $100 million based upon the actuarial assumptions used for funding in the July 1, 2011 Actuarial Valuation – a $1.343 billion gain on

liabilities offset by a $1.243 billion loss on the smoothed actuarial value of investments. Reported actuarial gains and losses are substantially negatively impacted by continued use of the somewhat nontraditional treatment of the DROP. Allocation of assets equal to less than 100% of DROP account balances may further distort actuarial gains and losses.

The market value of assets as of June 30, 2013 exceeds the smoothed actuarial value of assets by $1.347 billion. The $1.347 billion unrecognized investment gains are deferred and will be recognized over the asset smoothing period. As of June 30, 2012 unrecognized investment losses totaled $4.970 billion.

Additional disclosures and refinement may be warranted.

5. **Disclosure of sufficient information that another actuary, unfamiliar with the situation, could appraise the findings and arrive at similar results:** The actuarial valuation provides significant information. FRS is complicated and the methods employed for certain benefits (DROP) and the allocation of contribution requirement by Class are somewhat nontraditional. It would be helpful to disclose relevant payroll information to demonstrate the 4% payroll growth assumption may not be in compliance with F.S., 112.64(5)(a).

6. **Other aspects of the Valuation:** The actuarial valuation report provides significant information. We believe disclosures of the present value of benefits and actuarial gain / (loss) fully reflecting expected future DROPs continue to be appropriate. The method used to determine the smoothed actuarial value of assets may warrant further review. Under the current smoothed actuarial value of assets methodology, if the System were to earn exactly the assumed rate for the next five years the smoothed actuarial value would not equal market value.

Analysis

and

Recommendations

III. Analysis and Recommendations

The following are detailed analyses and recommendations based upon our examination and review of the work of the Department of Management Services' actuaries as evidenced by the July 1, 2013 Actuarial Valuation Report to determine whether:

A. *The Department of Management Services' actuaries are in compliance with the requirements of the Florida Statutes, Department rules, government accounting standards and actuarial standards of practice regarding their actuarial valuation of the Florida Retirement System pension plan.*

Overall, we believe the actuarial valuation is generally compliant with these requirements.

However, we believe some of the requirements of the Florida Statutes, Department rules and FRS Assumption Conference adopted assumptions and methods may conflict with government accounting standards and generally accepted actuarial standards of practice.

A-1 Payroll Growth Assumption

We believe the use of a 4% payroll growth assumption may not conform to F.S., 112.64(5)(a) requirements – payroll growth assumption should generally not exceed the average payroll growth for the latest 10-year period. In fact, the reported average annual actual payroll growth increase for the last four years is less than 4% (-1.38%) as disclosed in the last four annual actuarial valuation reports as follows:

Fiscal Year Ended	Payroll Growth
June 30, 2013	0.03%
June 30, 2012	-1.18%
June 30, 2011	-1.42%
June 30, 2010	-2.94%
Four-Year Average	-1.38%

F.S., 112.64(5) (a) provides - *If the amortization schedule for unfunded liability is to be based on a contribution derived in whole or in part from a percentage of the payroll of the system or plan membership, the assumption as to payroll growth shall not exceed the average payroll growth for the 10 years prior to the latest actuarial valuation of the system or plan unless a transfer, merger, or consolidation of government functions or services occurs, in which case the assumptions for payroll growth may be adjusted and may be based on the membership of the retirement plan or system subsequent to such transfer, merger, or consolidation.*

As in our prior report, we continue to strongly recommend future actuarial valuation reports disclose relevant payroll information sufficient to ascertain compliance with F.S., 112.64(5)(a).

We note the actuarial valuation report states:

To the best of our knowledge, the results are complete and accurate, and in our opinion, the techniques and assumptions used, other than the assumption used for future payroll growth for amortization purposes, are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. As noted previously, the payroll growth assumption was adopted by the FRS Assumptions Conference.

While the PowerPoint© presentation prepared by the System actuaries for the FRS Assumptions Conference in October 2013 briefly mentions the payroll growth assumption, we see no discussion / recommendation relating to the 4% payroll growth assumption in the System actuaries' PowerPoint© presentation for the FRS Assumptions Conference in October 2013.

Use of a payroll growth in excess of System experience would be expected to result in increasing future amortization costs as a percentage of covered payroll.

Government Accounting Standards Board (GASB) Statements 25 and 27 may also require use of a statutory compliant payroll growth assumption to the extent the statutory compliant payroll growth assumption is used for funding.

Section 5.8 of the GASB *Comprehensive Implementation Guide 2010-2011* provides:

> ***5.8 Consistent Application of Actuarial Methods and Assumptions***
>
> *5.8.1. Q—If a plan has actuarial valuations performed using methods and assumptions that conform to the parameters (including, for example, the entry age actuarial cost method), may the plan or the employer(s) use different methods and assumptions for financial reporting purposes (financial statements, including notes, and RSI) as long as those methods and assumptions also conform to the parameters (for example, using the projected unit credit actuarial cost method rather than the entry age method)? (Q&A25/26/27-25) [Amended 2007]*
>
> *A—No. For financial reporting purposes, there are two criteria: (1) actuarially determined pension information should be calculated in accordance with the parameters, consistently applied, and (2) the actuarial methods and assumptions used for financial reporting (plan and employer) should be the same as those used for funding requirement determinations—unless the methods and assumptions used for funding are different from the parameters. In that case, the methods and assumptions used for financial reporting should comply with the parameters, regardless of the methods and assumptions used in determining funding requirements.*

Actuarial Cost (Funding) Method: An actuarial cost method is a set of techniques for conversion of the actuarial present values of benefits into contribution requirements. Actuarial methods are characterized by:

1. Normal Cost – the cost of the system without consideration of funded status.

2. Actuarial Accrued Liability – the present value of future benefits less the present value of future normal costs.

The total contribution produced by an actuarial cost method is the total of the normal cost and an amount to amortize any unfunded actuarial accrued liability.

A-2 GASB Accounting

GASB Statement 25 was replaced by GASB Statement 67 for System accounting disclosures for System year July 1, 2013 through June 30, 2014. The July 1, 2013 FRS Actuarial Valuation Report does not provide GASB Statement 67 June 30, 2014 projections but instead provides information and references to replaced GASB Statement 25.

GASB Statement 67 provides for substantial changes in disclosure including determining the net pension liability (unfunded actuarial accrued liability) and the System fiduciary net position as a percentage of the total pension liability (funded ratio) based upon market value of assets not smoothed actuarial value of assets as under GASB Statements 25 and 27.

B. *The Department's actuaries use generally accepted actuarial cost methods, bases for assumptions and reporting standards.*

B-1 Ultimate or Replacement Entry Age Normal Actuarial Cost Method

A variation of the Entry-Age-Normal Actuarial Cost Method is being employed. Under this variation of the Entry-Age-Normal Actuarial Cost Method, the normal cost is determined as if all active members are covered under the lower (Tier II) level of benefits applicable to members eligible after June 30, 2011. This has the effect of dramatically reducing the normal cost for active members eligible prior to July 1, 2011. The increase in unfunded accrued liability resulting from this method change is being amortized over 30 years.

The July 1, 2011 Actuarial Valuation Report states:

All current members will continue to earn benefits at levels greater than those annually earned by members initially enrolled on or after July 1, 2011. When this impact is combined with amortizing the change in the unfunded liability due to Senate Bill 2100 over 30 years, the funding of current member's actual normal costs will extend beyond working lifetime into retirement.

We note the Government Accounting Standards Board issued Statements No. 67 and 68 amendments to GASB Statements No. 25 and 27 accounting standards for public retirement plans.

Under Statement No. 67 (similar language in Statement No. 68) this modification is expressly prohibited for accounting purposes as follows:

46. The entry age actuarial cost method should be used to attribute the actuarial present value of projected benefit payments of each plan member to periods in conformity with the following:
a. Attribution should be made on an individual plan-member-by-plan-member basis.
b. Each plan member's service costs should be level as a percentage of that member's projected pay. For purposes of this calculation, if a member does not have projected pay, the projected inflation rate should be used in place of the projected rate of change in salary.
c. The beginning of the attribution period should be the first period in which the member's service accrues pensions under the benefit terms, notwithstanding vesting or other similar terms.
d. The service costs of all pensions should be attributed through all assumed exit ages, through retirement. In pension plans in which the benefit terms include a DROP, for purposes of this Statement, the date of entry into the DROP should be considered to be the plan member's retirement date.

e. Each plan member's service costs should be determined based on the same benefit terms reflected in that member's actuarial present value of projected benefit payments.

While GASB requirements are for purposes of accounting, we believe this GASB requirement is derived from considerable analysis of the issues with this approach to the Entry-Age-Normal Actuarial Cost Method in conjunction with use of maximum amortization periods.

Finally, we note the *Review of 2012 Asset-Liability and Asset Allocation Update* presentation by Hewitteniskupp at the IAC meeting on March 19, 2012 included the following comment about this variation of the Entry-Age-Normal Actuarial Cost Method:

Impact of Pension Funding and/or Benefit Policy Changes

Later?
– Could include a change in the actuarial cost method (switch to "traditional" Entry Age, from the current "ultimate" Entry Age method).
– Issues here would also be considered by the FRS Actuarial Assumption Estimating Conference.

Effective with the July 1, 2011 Actuarial Valuation, consideration should have been given to the amortization period of the increased unfunded actuarial accrued liability resulting from this change. This increase is being amortized over the maximum allowable period (30 years) under State statute (and GASB requirements) from July 1, 2011 utilizing the 4% payroll growth assumption. A less aggressive approach to funding this increase may be more appropriate (i.e. reducing the amortization period, etc.).

The Government Accounting Standards Board has determined this variation is not acceptable for accounting expense and disclosure under GASB Statements 67 (generally effective for fiscal year ending in 2014) and 68 (generally effective for fiscal years ending in 2015). Questions may arise as to whether this variant is consistent with intergenerational equity for taxpayers and to whether

this variation is compliant with F.S., 112.61.

For the most part, the actuarial valuation meets these requirements. The nontraditional treatment of DROPs understates plan liabilities. Our discussion of this aspect of the actuarial cost methods is included in paragraph A above.

B-2 Deferred Retirement Option Program (DROP)

An additional area where the application of the Entry Age Normal Method in the FRS actuarial valuation is nontraditional deals with the *policy* decision for treatment of the Deferred Retirement Option Program (DROP).

As stated on page I-16 of the July 1, 2013 Actuarial Valuation Report (Report) the DROP contribution requirement is determined on a two-step approach. Based upon communication with the Department's actuary, we understand the process to proceed as follows:

Step 1 (1st bullet) – The liabilities are determined under the entry age normal actuarial cost method by Class utilizing assumed rates of future retirement that do not reflect the probability of entering the DROP. We understand current DROP members are treated as retired and included in their respective Class. The required contribution by Class is determined as the normal cost plus an unfunded accrued liability amortization cost (See Table IV - 11 of the Report).

Step 2 (2nd bullet) – The liabilities are re-determined under the entry age normal actuarial cost method utilizing assumed rates of future retirement that do reflect the probability of entering the DROP in the future. The required contribution for the DROP is determined as the increase in normal cost plus the increase in actuarial accrued liability amortized over 30 years as a level dollar amount assuming mid-year payment in the fiscal year following the Report year (See Table IV - 11 of the Report).

We understand for the remainder of the Report (excluding GASB accounting information) values are shown based upon Step 1 only.

For purposes of determining contribution amounts, the cost for the DROP may not have been determined under a GASB compliant actuarial cost method as defined under GASB Statements 25 and 27 (See Table IV-11 of the Report).

1. The footnote to Table IV–11 of the July 1, 2013 Actuarial Valuation Report states that … *DROP* (contribution) *rates are special charges to cover the assumed cost of DROP participants; they are not Normal Cost or UAL Cost in the traditional sense.*
2. Paragraph 10.a. of GASB Statement 27 states *Benefits to be included – The actuarial present value of total projected benefits should include all pension benefits to be provided by the plan to plan members or beneficiaries in accordance with (1) the terms of the plan and (2) any additional statutory or contractual agreement(s) to provide pension benefits through the plan that are in force at the actuarial valuation date.*

3. Paragraph 10.d. of GASB Statement 27 states *Actuarial cost method – One of the following actuarial cost methods should be used: entry-age, frozen entry age, attained age, projected unit credit, or the aggregate actuarial cost method as described in Paragraph 40, Section B.*

We believe all GASB accounting information has been presented based upon the Step 2 results.

Finally, we note for purposes of the measurement of the deficiency (actuarial accrued liability exceeds smoothed actuarial value of assets) the actuarial accrued liability is measured under Step 1. This measurement currently understates the amount of unfunded accrued liability since the Step 1 actuarial accrued liability does not reflect the actuarial accrued liability for expected future DROPs. F.S., 121.031(3)(f)(1) uses the term actuarial liabilities without further definition. We might have expected the use of the full actuarial accrued liability measured inclusive of expectations of future DROPs (Step 2).

We note the retirement assumption in the first year of eligibility may have been increased as an estimate of members who would have retired rather than enter the DROP if there were no DROP. While this is a step in the right direction it does not capture the full extent of expected future DROP enrollments. The continued nontraditional treatment of the DROP appears to have a significant impact on the size of the reported unfunded accrued liability ($21.6 billion – no future DROPs vs. $22.4 billion expected future DROPs).

The actuarial valuation shows that use of the actuarial accrued liability determined under the Step 2 approach would increase the reported July 1, 2013 unfunded accrued liability by $823.2 million.

The PowerPoint© presentation prepared by the System actuaries for the FRS Assumptions Conference in October 2013 recommends updating the methodology for funding DROP.

B-3 Amortization of Unfunded Accrued Liability

We believe writing down the amortization bases by expected amortization payments when expected amortization payments have not been paid may not be consistent with the 30-year maximum amortization period requirement of F.S., 112.64(4).

The July 1, 2013 Actuarial Valuation writes down existing amortization bases by the actuarially required expected amortization payment. In fact, the actuarially required contribution has not been paid for the three System years ending June 30, 2011 through June 30, 2013. The outstanding amortization bases are written down by the full expected amortization payment and the difference is included in the then current year's actuarial gain / (loss) and amortized over a new 30-year period rather than the shorter remaining periods of the outstanding amortization bases.

The July 1, 2013 Actuarial Valuation Report estimates the shortfall in contributions during the three System years ending June 30, 2011 through June 30, 2013 increased this year's actuarially required System contribution by 0.5% of pay using this System approach to amortizing bases.

C. *The specific economic and demographic assumptions used are arrived at from a sufficient level of detail considered, and are reasonable in light of recent experience. Such analysis should also comment on the collective effect of all assumptions.*

C-1 Actuarial Assumptions

The retirement assumptions were updated and first implemented in the July 1, 2010 Actuarial Valuation based upon the Experience Study covering the five-year period ended June 30, 2008 as modified by the February 16, 2010 study on House Bill 479 which was enacted into law. The retirement assumptions were further updated and first implemented in the July 1, 2011 Actuarial Valuation based upon the Experience Study covering the five-year period ended June 30, 2008 as modified by the February 16, 2010 study on House Bill 479 which was enacted into law and further modified by the July 1, 2011 Study on Senate Bill 2100 which was enacted into law.

We believe that the updated assumptions generally better reflect prior experience and future expectations. However, as discussed in our review of the Experience Study for the 5-year period ended June 30, 2008, we believe the liabilities continue to be overstated due to the use of quite conservative inactive mortality assumptions when compared to observed FRS inactive mortality experience.

Process for Assumption Setting: The principles set forth in Actuarial Standards of Practice (ASOP) No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations* guide the proper selection of **economic assumptions**. In particular, they prescribe that the actuary develop a best estimate range for each economic assumption, and then recommend a specific point within that range. After completing the assumption setting process, the actuary should review the set of economic assumptions for consistency.

We note Actuarial Standards of Practice (ASOP) No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations* has been revised. The revised version is effective for any actuarial work product with a measurement date on or after September 30, 2014. Key changes in the revised ASOP No. 27 include replacement of the best estimate range with a requirement that each selected assumption be reasonable. The actuary may base the reasonable assumption on their estimate of future experience, on their observations of estimated inherent in market data or on a combination of both. The reasonable assumption cannot have a significant bias. The rationale for selecting economic assumptions is required to be disclosed. The revised ASOP No. 27 distinguishes between prescribed assumptions or methods set by law or by another party.

The principles set forth in ASOP No. 35, *Selection of Demographic and Other* ***Noneconomic Actuarial Assumptions*** *for Measuring Pension Obligations* guide the proper selection of the remaining actuarial assumptions. In particular, they prescribe the actuary use professional judgment to estimate possible future outcomes based on past experience and future expectations, and select assumptions based upon application of that professional judgment. The actuary should select reasonable demographic assumptions in light of the particular characteristics of the System that is the subject of the measurement. A reasonable assumption is one that is expected to appropriately model the contingency being measured and is not anticipated to produce significant

cumulative actuarial gains or losses over the measurement period.

We note an exposure draft of a revision to ASOP No. 35, *Selection of Demographic and Other* ***Noneconomic Actuarial Assumptions*** *for Measuring Pension Obligations* was issued in September 2013. Key proposed changes are to set guidelines for a reasonable assumption consistent with revised ASOP No. 27, acknowledge more than one reasonable assumption is possible and require disclosure of the rationale for each significant demographic assumption.

The following comments on the remaining actuarial assumptions remain valid.

1. ***Early retirement / withdrawal rates*** – Early retirement and withdrawal rates are combined due to the somewhat unusual early retirement eligibility under the System [completion of six years of service (eight years if employed after June 30, 2011) regardless of age]. The valuation assumes early retirement (immediate reduced benefit commencement) for vested members leaving employment within ten (10) years of normal retirement. All other vested terminations are assumed to elect an unreduced deferred benefit commencing at normal retirement date.

   These rates reflect ten (10) year select and ultimate rates. It may be more common to use a select period that coincides with the vesting period (6 / 8 years vs. 10 years). Also, we are unaware of any analysis to determine experience relating to members electing immediate reduced benefits vs. deferring unreduced benefits to normal retirement date.

2. ***Retirement rates and DROP*** – We have discussed in detail issues relating to the treatment of current and future DROPs (see Paragraph B).

   In brief, two sets of retirement rates are determined. Set 1 does not reflect the probability of entering the DROP. Set 2 reflects the probability of entering the DROP. The Actuarial Valuation Report is substantially based upon Set 1 retirement rates, which include an assumption that half of the members expected to enter the DROP would still elect to retire in the absence of the DROP.

   As stated above, we believe the Report should substantially reflect Set 2 retirement rates. The allocation of the contribution to Classes could be included in the Report based upon Step 1 rates consistent with our understanding of policy decisions.

3. ***Inactive mortality and disabled mortality rates*** - The inactive mortality rates (separate male and female rates) used for all Classes were updated first effective in the July 1, 2009 Actuarial Valuation to reflect experience (lower than expected observed mortality). While not unreasonable, the inactive healthy mortality rates appear conservative.

   Please refer to our actuarial review of the Experience Study covering the five-year period ended June 30, 2008 for a more detailed analysis.

In Paragraphs A (above), we have provided our insights on the funding and the accounting expense

and disclosure assumptions addressing the payroll growth assumption for purposes of amortization of the deficit.

D. *The Department's actuaries provide sufficient information as to causes for gains, losses, and net change in the unfunded liability to allow evaluation of specific factors.*

The July 1, 2013 Actuarial Valuation Report provides information on actuarial gains and losses and net change in unfunded liability on several different pages.

The Executive Summary of the July 1, 2013 Actuarial Valuation Report breaks out gains and losses by source for the actuarial accrued liability. Gains and losses by source are first determined based upon the total actuarial accrued liability (exclusive of gains and losses from assumed investment return) followed by the effect on the unfunded actuarial accrued liability showing the loss from investment return.

The System experienced an actuarial **loss of $1.165 billion** during fiscal year ended June 30, 2013 - $1.502 billion loss from liabilities net of a $337 million gain from investments. In addition, this loss is impacted by the nontraditional treatment of liabilities for the DROP.

Liability actuarial (gains) / losses are reported by source on page I-9 of the Actuarial Valuation Report. We note that the most significant source of liability actuarial (gain) / loss identified this year is a $2.493 billion loss from *Inactive/DROP Members Due to Improved Reporting*. During the previous four years, this substantial source of actuarial (gain) / loss resulted in losses of $2.081 billion, $1.723 billion, $1.632 billion and $1.533 billion, respectively. We understand part of this liability may result from an overstatement of mortality gains for the death of retired members who have elected joint and survivor benefits. We understand overstated mortality gains are offset by losses included as part of the inactive data clean-up. We believe effort is warranted to maintain accurate data to ensure the validity of reported actuarial results.

In addition, we note a gain from mortality experience this year identified in the July 1, 2013 Actuarial Valuation Report. Gains from retiree mortality experience were also reported for fiscal years ended June 30, 2012, 2011, 2010 and 2009. Developing retiree mortality experience is consistent with our observation of the conservative nature of this assumption.

E. *The Department's actuaries' actuarial report adequately provides necessary information that another actuary, unfamiliar with the situation, would find sufficient to appraise the findings and arrive at reasonably similar results.*

The Actuarial Valuation Report provides significant information - both in terms of importance and in volume. The FRS is complicated and the valuation methods employed are somewhat non-traditional for: (1) certain benefits (DROP), (2) the allocation of contribution requirement by Class and (3) the use of the Rate Stabilization Mechanism, when applicable.

In addition to our comments in the above paragraphs, we believe that additional information would be both helpful and appropriate. We are pleased to see the actuarial present value of future

benefits and the actuarial present value of future pay disclosed. We note, however, these disclosures do not reflect the Step 2 assumptions for future DROPs.

As detailed later in our Review, we requested and were provided with these actuarial present values by Class further broken down by decrement. This detail was provided both under the retirement assumptions that do not recognize future DROPs (Step 1) and fully recognizing future DROPs (Step 2). This is the basis for our validation of the results of the actuarial valuation.

We believe disclosure of the 10-year history of payroll growth would be beneficial in light of the statutory requirement limiting this assumption to actual 10-year payroll growth experience.

We believe the actuarial valuation report could be further improved by providing additional prior year results along with side-by-side current year results as appropriate. The reader of the actuarial valuation report would gain insight from a ready comparison both in terms of changes in absolute value and percentage changes.

We may look to Chapter 60T-1, Florida Administrative Code which endorses the prior year / current year side by side comparison along with suggestions of key valuation disclosures.

F.A.C., Chapter 60T-1.003(4)(h) provides ***Actuarial Reports***... *(l) A comparative summary of principal valuation results, essentially in the following format:*

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS
(Not a required format – to be used as a guide only)

	Actuarial Valuation Prepared as of	
	Current Date	*Prior Date*
1. Participant Data		
Active members	#	#
Total annual payroll	$	$
Retired members and beneficiaries (other than disabled)	#	#
Total annualized benefit	$	$
Disabled members receiving benefits	#	#
Total annualized benefit	$	$
Terminated vested members	#	#
Total annualized benefit	$	$
2. Assets		
Actuarial value of assets	$	$
Market value of assets	$	$
3. Liabilities		
Present value of all future expected benefit payments:		
Active members	$	$
Retirement benefits	$	$
Vesting benefits	$	$
Disability benefits	$	$
Death benefits	$	$
Return of contribution	$	$
Total	$	$
Terminated vested members	$	$
Retired members and beneficiaries:		
Retired (other than disabled) and beneficiaries	$	$
Disabled members	$	$
Total	$	$
Total present value of all future expected benefit payments	$	$
Liabilities due and unpaid	$	$
**Actuarial accrued liability*	$	$
**Unfunded actuarial accrued liability*	$	$
**Refers to liabilities not funded by future normal cost contributions. Show amount, date and amortization period a establishment, and current amount of each such liability not amortized*		

4. Actuarial present value of accrued benefits (to be determined in accordance with a. and b. below)		
Statement of actuarial present value of all accrued benefits		
Vested accrued benefits	*$*	*$*
Inactive members and beneficiaries	*$*	*$*
Active members (includes nonforfeitable accumulated member contributions in the amount of)	*$*	*$*
Total value of all vested accrued benefits	*$*	*$*
Non-vested accrued benefits	*$*	*$*
Total actuarial present value of all accrued benefits	*$*	*$*
Statement of changes in total actuarial present value of all accrued benefits		
Actuarial present value of accrued benefits at beginning of year	*$*	
Increase (decrease) during year attributable to (where applicable):		
Plan amendment	*$*	
Changes in actuarial assumptions	*$*	
Increase for interest and probability of payment due to decrease in discount period and benefits accrued	*$*	
Benefits paid	*$*	
Other changes (identify and state amount)	*$*	
Net increase (decrease)	*$*	
Actuarial present value of accrued benefits at end of year	*$*	

a. Accrued benefits are those future promised benefits that are determined in accordance with the plan's provisions based on the service members have rendered to the actuarial valuation date. Accrued benefits are those payable under all applicable plan circumstances – retirement, death, disability, and termination of employment – to the extent they are deemed attributable to member service rendered to the valuation date. Benefits to be provided by insured contracts for which the plan sponsor has no future liability and which are excluded from plan assets are to be excluded from plan benefits.

b. All determinations are to be on a consistent basis. Any change is to be disclosed, together with an explanation. The exhibit entries for the actuarial valuation date as of which a change is made shall show the entries on a before and after change basis.

5. Pension cost (specify applicable funding period)		
Normal cost (show cost for each benefit if so calculated and amount of administrative		

expenses, if applicable.)	*$*	*$*
Payment to amortize unfunded liability	*$*	*$*
Expected plan sponsor contribution (including normal cost, amortization payment and interest, as applicable)	*$*	*$*
As % of payroll	*%*	*%*
Amount to be contributed by members	*$*	*$*
As % of payroll	*%*	*%*
6. Past contributions		
For each plan year since last report:		
Required plan sponsor contribution	*$*	*$*
Required member contribution	*$*	*$*
Actual contributions made by:		
Plan's sponsor	*$*	*$*
Members	*$*	*$*
Other (e.g., Chapters 175 or 185, F.S.)	*$*	*$*
7. Net actuarial gain (loss) (if applicable)	*$*	*$*
8. Other disclosures (where applicable)		
Present value of active member:		
Future salaries		
at attained age	*$*	*$*
at entry age	*$*	*$*
Future contributions		
at attained age	*$*	*$*
at entry age	*$*	*$*
Present value of future contributions from other sources (identify)	*$*	*$*
Present value of future expected benefit payments for active members at entry age	*$*	*$*

F. *Other aspects of the Department's actuaries' work and report are sufficient*

As stated above, the Actuarial Valuation Report provides significant information. We believe that disclosures of the normal costs and actuarial liabilities fully reflecting future DROPs are appropriate.

F.S. 121.031(3)(a) provides *The valuation of plan assets shall be based on a 5-year averaging methodology such as that specified in the United States Department of Treasury Regulations, 26 C.F.R. s. 1.412(c)(2)-1, or a similar accepted approach designed to attenuate fluctuations in asset values.*

The July 1, 2013 smoothed actuarial value of assets method starts with the July 1, 2012 smoothed actuarial value of assets and determines an expected smoothed actuarial value of assets as of July

1, 2013 assuming the expected fund return (7.75% for fiscal 2013) recognizing non-investment cash flows. The July 1, 2013 smoothed actuarial value of assets is the July 1, 2013 expected smoothed actuarial value plus 20% of the excess (deficiency) of July 1, 2013 market value of assets over the July 1, 2013 expected value of assets.

We believe this smoothed actuarial value of assets method is an acceptable method under Treasury regulations, complies with Florida statute (rolling 5-year average) and meets the requirements of Actuarial Standard of Practice No. 44 Selection and Use of Asset Valuation Methods for Pension Valuations. However, we note that under prior IRS rules, a private retirement plan covered by the above Treasury regulation would require prior IRS approval to switch from another approved method to this method. This is not the case with pre-approved methods. We believe that a method subject to automatic approval may be preferable.

A deficiency of the current smoothed actuarial value of assets method is that if actual investment returns exactly matched expected investment returns over the 5-year averaging period, the actuarial value under this method would NOT equal the market value.

ASOP No. 35, Selection of Demographic and Other Noneconomic Actuarial Assumptions for Measuring Pension Obligations was updated for deviation language effective May 1, 2011. Section 4.1.1 of ASOP No. 35 has been revised in two ways. *First, the actuary's disclosure around mortality should be sufficient to allow another qualified actuary to understand the assumption made for future improvement. Second, if the actuary assumes zero future improvement, the actuary needs to disclose that assumption explicitly.*

Page A-6 of the Actuarial Valuation Report states: *Mortality rates for members who die in service are based on the RP-2000 Employee Mortality tables for males and females*. If the System Actuary is not assuming future mortality improvement, we recommend an explicit statement so disclosing no future mortality improvement is assumed.

Table IV-12 of the Actuarial Valuation Report shows the legislated contribution rates were less than the actuarially determined contribution requirements for the plan year ended June 30, 2013. Among the many ramifications of insufficient funding is future contribution projections may need to be reduced resulting in a lower effective discount rate for determining liabilities under GASB 67 and 68 accounting disclosures. We note the legislated contribution rates equal the actuarially determined contribution requirements for the plan year ended June 30, 2014.

Replication of July 1, 2013

Actuarial Valuation Results

IV. Replication of key financial results of the July 1, 2013 Actuarial Valuation

In this phase of the review, GRS reviewed the calculated values (present value of benefits) supplied by the FRS actuaries subdivided by Class and type of benefit for active members (i.e., service retirement, vesting and reduced retirement, ordinary and service disability, ordinary and service death, and refunds of contributions) and pensioners by category (retirees, terminated vested members and current DROPS) divided by Class. In addition, we reviewed the calculation of the present values of future salaries divided by Class.

The following tables compare the results of the System actuaries and GRS calculations of present value of benefits and future compensation for each Class under regular retirement rates and increased retirement rates that reflect anticipated future DROPs.

GRS established quantitative measures to determine whether, on a present value line by line basis (i.e., retired members, beneficiaries, active retirement, death, disability, etc.), results calculated separately by GRS and the System actuaries agreed with each other to within reasonable tolerances. One of our quantitative tests is the ratio of the line present value calculated by GRS to the line present value calculated by the System actuaries. To PASS this test requires a difference not in excess of 5.0%. This test is sensitive to the size of the line present value that is measured in thousand dollar increments. For example, the present value for duty disability for active Special Risk Administrative (No Future DROP Retirement Rates) (SRA) Class members is 134. A GRS calculation of above 140 or below 128 would fail this 5.0% test. In fact, GRS calculated 147, which is only off by thirteen (13) but fails the percentage test (9.70%).

Measure Two of our quantitative test is the ratio of the difference between the line present value calculation of the System actuaries and the GRS line present value calculation divided by the total liability calculated by the System actuaries. To PASS this test requires a ratio within 0.5%. The present value for duty disability for active Special Risk Administrative (No Future DROP Retirement Rates) (SRA) Class members mentioned above clearly passes this test (0.01%) as expected due to the minimal dollar difference. A PASS is assigned to each line present value only if Measure One or Measure Two is passed.

Every line liability PASSES for all Classes and for both retirement rate assumption sets and in our opinion our results have verified the calculations of the Department's actuaries. Our results should not replace the results of the System actuaries. Our calculations are sufficient only for the purpose intended (actuarial review) and are not suitable for any other purpose.

FLORIDA RETIREMENT SYSTEM

($ 000)

GRAND TOTAL - - No Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 9,080,054	$ 8,954,307	(0.0138)	(0.0007)	Pass	Pass	Pass
Retirement	57,656,867	58,948,441	0.0224	0.0075	Pass	**Fail**	Pass
Non-Duty Death	1,257,952	1,555,751	0.2367	0.0017	**Fail**	Pass	Pass
Duty Death	454,636	514,138	0.1309	0.0003	**Fail**	Pass	Pass
Non-Duty Disability	1,712,381	1,822,567	0.0643	0.0006	**Fail**	Pass	Pass
Duty Disability	523,564	560,967	0.0714	0.0002	**Fail**	Pass	Pass
Return of Contributions	101,045	108,865	0.0774	0.0000	**Fail**	Pass	Pass
Subtotal	$ 70,786,499	$ 72,465,036	0.0237	0.0098	Pass	N/A	Pass
Less PVF Contributions	520	520	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 70,785,979**	**$ 72,464,516**	**0.0237**	**0.0098**	**Pass**	N/A	**Pass**
Count	513,780	513,780	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 219,397,932	$ 223,778,502	0.0200	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 74,843,720	$ 76,180,868	0.0179	0.0078	Pass	**Fail**	Pass
Terminated Vesteds	5,234,608	5,348,239	0.0217	0.0007	Pass	Pass	Pass
DROPs	20,597,701	21,042,688	0.0216	0.0026	Pass	Pass	Pass
Total Inactive	**$ 100,676,029**	**$ 102,571,795**	**0.0188**	**0.0111**	**Pass**	N/A	**Pass**
Total	**$ 171,462,008**	**$ 175,036,311**	**0.0208**	**0.0208**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Special Risk Admin (SRA) - - No Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 1,633	$ 1,629	(0.0024)	0.0000	Pass	Pass	Pass
Retirement	7,442	7,576	0.0180	0.0014	Pass	Pass	Pass
Non-Duty Death	98	128	0.3061	0.0003	**Fail**	Pass	Pass
Duty Death	58	62	0.0690	0.0000	**Fail**	Pass	Pass
Non-Duty Disability	163	176	0.0798	0.0001	**Fail**	Pass	Pass
Duty Disability	134	147	0.0970	0.0001	**Fail**	Pass	Pass
Return of Contributions	2	3	0.5000	0.0000	**Fail**	Pass	Pass
Subtotal	$ 9,530	$ 9,721	0.0200	0.0021	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 9,530**	**$ 9,721**	**0.0200**	**0.0021**	**Pass**	N/A	**Pass**
Count	41	41	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 15,114	$ 15,606	0.0326	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 76,731	$ 77,684	0.0124	0.0103	Pass	**Fail**	Pass
Terminated Vesteds	1,259	1,309	0.0397	0.0005	Pass	Pass	Pass
DROPs	5,054	5,177	0.0243	0.0013	Pass	Pass	Pass
Total Inactive	**$ 83,044**	**$ 84,170**	**0.0136**	**0.0122**	**Pass**	N/A	**Pass**
Total	**$ 92,574**	**$ 93,891**	**0.0142**	**0.0142**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Special Risk (SR) - - No Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 1,447,356	$ 1,441,711	(0.0039)	(0.0002)	Pass	Pass	Pass
Retirement	14,661,341	14,914,039	0.0172	0.0069	Pass	**Fail**	Pass
Non-Duty Death	321,495	424,675	0.3209	0.0028	**Fail**	Pass	Pass
Duty Death	164,057	199,120	0.2137	0.0010	**Fail**	Pass	Pass
Non-Duty Disability	472,061	495,502	0.0497	0.0006	Pass	Pass	Pass
Duty Disability	387,924	412,961	0.0645	0.0007	**Fail**	Pass	Pass
Return of Contributions	9,803	14,068	0.4351	0.0001	**Fail**	Pass	Pass
Subtotal	$ 17,464,037	$ 17,902,076	0.0251	0.0119	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 17,464,037**	**$ 17,902,076**	**0.0251**	**0.0119**	**Pass**	N/A	**Pass**
Count	57,531	57,531	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 42,067,902	$ 42,308,573	0.0057	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 14,063,402	$ 14,276,077	0.0151	0.0058	Pass	**Fail**	Pass
Terminated Vesteds	694,395	702,500	0.0117	0.0002	Pass	Pass	Pass
DROPs	4,655,312	4,760,847	0.0227	0.0029	Pass	Pass	Pass
Total Inactive	**$ 19,413,109**	**$ 19,739,424**	**0.0168**	**0.0088**	**Pass**	N/A	**Pass**
Total	**$ 36,877,146**	**$ 37,641,500**	**0.0207**	**0.0207**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Senior Management (SM) - - No Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 176,281	$ 174,449	(0.0104)	(0.0004)	Pass	Pass	Pass
Retirement	1,593,794	1,609,290	0.0097	0.0034	Pass	Pass	Pass
Non-Duty Death	28,511	34,725	0.2180	0.0013	**Fail**	Pass	Pass
Duty Death	7,793	8,572	0.1000	0.0002	**Fail**	Pass	Pass
Non-Duty Disability	24,781	26,665	0.0760	0.0004	**Fail**	Pass	Pass
Duty Disability	3,729	4,101	0.0998	0.0001	**Fail**	Pass	Pass
Return of Contributions	2,110	2,213	0.0488	0.0000	Pass	Pass	Pass
Subtotal	$ 1,836,999	$ 1,860,015	0.0125	0.0050	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 1,836,999**	**$ 1,860,015**	**0.0125**	**0.0050**	**Pass**	N/A	**Pass**
Count	5,425	5,425	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 3,790,551	$ 3,919,014	0.0339	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 1,970,180	$ 2,004,439	0.0174	0.0074	Pass	**Fail**	Pass
Terminated Vesteds	177,565	179,698	0.0120	0.0005	Pass	Pass	Pass
DROPs	639,752	653,630	0.0217	0.0030	Pass	Pass	Pass
Total Inactive	**$ 2,787,497**	**$ 2,837,767**	**0.0180**	**0.0109**	**Pass**	N/A	**Pass**
Total	**$ 4,624,496**	**$ 4,697,782**	**0.0158**	**0.0158**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM **Regular (REG) + TRS + SCOERS + IFAS - - No Future DROPs Retirement Rates**

($ 000)

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 7,390,121	$ 7,272,874	(0.0159)	(0.0009)	Pass	Pass	Pass
Retirement	40,814,539	41,825,747	0.0248	0.0079	Pass	**Fail**	Pass
Non-Duty Death	886,002	1,068,374	0.2058	0.0014	**Fail**	Pass	Pass
Duty Death	278,315	302,053	0.0853	0.0002	**Fail**	Pass	Pass
Non-Duty Disability	1,202,316	1,286,477	0.0700	0.0007	**Fail**	Pass	Pass
Duty Disability	129,636	141,462	0.0912	0.0001	**Fail**	Pass	Pass
Return of Contributions	88,908	92,088	0.0358	0.0000	Pass	Pass	Pass
Subtotal	$ 50,789,837	$ 51,989,075	0.0236	0.0094	Pass	N/A	Pass
Less PVF Contributions	520	520	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 50,789,317**	**$ 51,988,555**	**0.0236**	**0.0094**	**Pass**	N/A	**Pass**
Count	449,102	449,102	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 172,173,558	$ 176,163,224	0.0232	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 57,512,939	$ 58,581,311	0.0186	0.0084	Pass	**Fail**	Pass
Terminated Vesteds	4,306,006	4,407,758	0.0236	0.0008	Pass	Pass	Pass
DROPs	14,941,017	15,258,519	0.0213	0.0025	Pass	Pass	Pass
Total Inactive	**$ 76,759,962**	**$ 78,247,588**	**0.0194**	**0.0117**	**Pass**	N/A	**Pass**
Total	**$ 127,549,279**	**$ 130,236,143**	**0.0211**	**0.0211**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Judicial (J) - - No Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 34,580	$ 34,071	(0.0147)	(0.0003)	Pass	Pass	Pass
Retirement	420,876	429,725	0.0210	0.0060	Pass	**Fail**	Pass
Non-Duty Death	16,365	20,910	0.2777	0.0031	**Fail**	Pass	Pass
Duty Death	3,264	3,160	(0.0319)	(0.0001)	Pass	Pass	Pass
Non-Duty Disability	9,991	10,446	0.0455	0.0003	Pass	Pass	Pass
Duty Disability	1,623	1,724	0.0622	0.0001	**Fail**	Pass	Pass
Return of Contributions	54	275	4.0926	0.0001	**Fail**	Pass	Pass
Subtotal	$ 486,753	$ 500,311	0.0279	0.0091	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 486,753**	**$ 500,311**	**0.0279**	**0.0091**	**Pass**	N/A	**Pass**
Count	727	727	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 980,577	$ 990,151	0.0098	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 700,027	$ 712,981	0.0185	0.0087	Pass	**Fail**	Pass
Terminated Vesteds	19,788	20,065	0.0140	0.0002	Pass	Pass	Pass
DROPs	280,119	286,539	0.0229	0.0043	Pass	Pass	Pass
Total Inactive	**$ 999,934**	**$ 1,019,585**	**0.0197**	**0.0132**	**Pass**	N/A	**Pass**
Total	**$ 1,486,687**	**$ 1,519,896**	**0.0223**	**0.0223**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Legislative - Attorney - Cabinet (ESO) - - No Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 5,875	$ 5,801	(0.0126)	(0.0006)	Pass	Pass	Pass
Retirement	16,284	16,580	0.0182	0.0024	Pass	Pass	Pass
Non-Duty Death	682	874	0.2815	0.0015	**Fail**	Pass	Pass
Duty Death	152	154	0.0132	0.0000	Pass	Pass	Pass
Non-Duty Disability	405	432	0.0667	0.0002	**Fail**	Pass	Pass
Duty Disability	73	79	0.0822	0.0000	**Fail**	Pass	Pass
Return of Contributions	26	31	0.1923	0.0000	**Fail**	Pass	Pass
Subtotal	$ 23,497	$ 23,951	0.0193	0.0037	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 23,497**	**$ 23,951**	**0.0193**	**0.0037**	**Pass**	N/A	**Pass**
Count	112	112	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 44,608	$ 46,373	0.0396	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 75,591	$ 76,568	0.0129	0.0079	Pass	**Fail**	Pass
Terminated Vesteds	10,705	11,113	0.0381	0.0033	Pass	Pass	Pass
DROPs	14,344	14,651	0.0214	0.0025	Pass	Pass	Pass
Total Inactive	**$ 100,640**	**$ 102,332**	**0.0168**	**0.0136**	**Pass**	N/A	**Pass**
Total	**$ 124,137**	**$ 126,283**	**0.0173**	**0.0173**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Elected County Officials (ECO) - - No Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**Individual 5%**	**PVFB 0.5%**	**Composite**
Withdrawal / Early Retirement	$ 24,208	$ 23,772	(0.0180)	(0.0006)	Pass	Pass	Pass
Retirement	142,591	145,484	0.0203	0.0041	Pass	Pass	Pass
Non-Duty Death	4,799	6,065	0.2638	0.0018	**Fail**	Pass	Pass
Duty Death	997	1,017	0.0201	0.0000	Pass	Pass	Pass
Non-Duty Disability	2,664	2,869	0.0770	0.0003	**Fail**	Pass	Pass
Duty Disability	445	493	0.1079	0.0001	**Fail**	Pass	Pass
Return of Contributions	142	187	0.3169	0.0001	**Fail**	Pass	Pass
Subtotal	$ 175,846	$ 179,887	0.0230	0.0057	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 175,846**	**$ 179,887**	**0.0230**	**0.0057**	**Pass**	N/A	**Pass**
Count	842	842	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 325,622	$ 335,561	0.0305	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 444,850	$ 451,808	0.0156	0.0098	Pass	**Fail**	Pass
Terminated Vesteds	24,890	25,796	0.0364	0.0013	Pass	Pass	Pass
DROPs	62,103	63,325	0.0197	0.0017	Pass	Pass	Pass
Total Inactive	**$ 531,843**	**$ 540,929**	**0.0171**	**0.0128**	**Pass**	N/A	**Pass**
Total	**$ 707,689**	**$ 720,816**	**0.0185**	**0.0185**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

GRAND TOTAL - - Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 9,080,054	$ 8,954,914	(0.0138)	(0.0007)	Pass	Pass	Pass
Retirement	58,449,927	60,655,459	0.0377	0.0128	Pass	**Fail**	Pass
Non-Duty Death	1,105,840	1,363,784	0.2333	0.0015	**Fail**	Pass	Pass
Duty Death	420,476	475,747	0.1314	0.0003	**Fail**	Pass	Pass
Non-Duty Disability	1,591,995	1,701,036	0.0685	0.0006	**Fail**	Pass	Pass
Duty Disability	483,345	518,914	0.0736	0.0002	**Fail**	Pass	Pass
Return of Contributions	101,045	105,273	0.0418	0.0000	Pass	Pass	Pass
Subtotal	$ 71,232,682	$ 73,775,127	0.0357	0.0148	Pass	N/A	Pass
Less PVF Contributions	520	520	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 71,232,162**	**$ 73,774,607**	**0.0357**	**0.0148**	**Pass**	N/A	**Pass**
Count	513,780	513,780	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 208,569,339	$ 213,288,637	0.0226	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 74,843,720	$ 76,180,868	0.0179	0.0078	Pass	**Fail**	Pass
Terminated Vesteds	5,234,608	5,348,239	0.0217	0.0007	Pass	Pass	Pass
DROPs	20,597,701	21,042,688	0.0216	0.0026	Pass	Pass	Pass
Total Inactive	**$ 100,676,029**	**$ 102,571,795**	**0.0188**	**0.0110**	**Pass**	N/A	**Pass**
Total	**$ 171,908,191**	**$ 176,346,402**	**0.0258**	**0.0258**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Special Risk Admin (SRA) - - Future DROPs Retirement Rates

Active PVFB	**Milliman**	**GRS**	**Liability Ratio**		**Liability Test**		
			Individual	**Total**	**Individual 5%**	**PVFB 0.5%**	**Composite**
Withdrawal / Early Retirement	$ 1,633	$ 1,629	(0.0024)	0.0000	Pass	Pass	Pass
Retirement	7,498	7,774	0.0368	0.0030	Pass	Pass	Pass
Non-Duty Death	85	112	0.3176	0.0003	**Fail**	Pass	Pass
Duty Death	52	57	0.0962	0.0001	**Fail**	Pass	Pass
Non-Duty Disability	146	158	0.0822	0.0001	**Fail**	Pass	Pass
Duty Disability	120	132	0.1000	0.0001	**Fail**	Pass	Pass
Return of Contributions	2	3	0.5000	0.0000	**Fail**	Pass	Pass
Subtotal	$ 9,536	$ 9,865	0.0345	0.0036	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 9,536**	**$ 9,865**	**0.0345**	**0.0036**	**Pass**	N/A	**Pass**
Count	41	41	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 13,905	$ 14,439	0.0384	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 76,731	$ 77,684	0.0124	0.0103	Pass	**Fail**	Pass
Terminated Vesteds	1,259	1,309	0.0397	0.0005	Pass	Pass	Pass
DROPs	5,054	5,177	0.0243	0.0013	Pass	Pass	Pass
Total Inactive	**$ 83,044**	**$ 84,170**	**0.0136**	**0.0122**	**Pass**	N/A	**Pass**
Total	**$ 92,580**	**$ 94,035**	**0.0157**	**0.0157**	Pass	N/A	Pass

FLORIDA RETIREMENT SYSTEM

($ 000)

Special Risk (SR) - - Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 1,447,356	$ 1,441,711	(0.0039)	(0.0002)	Pass	Pass	Pass
Retirement	14,935,470	15,390,618	0.0305	0.0123	Pass	**Fail**	Pass
Non-Duty Death	291,693	384,185	0.3171	0.0025	**Fail**	Pass	Pass
Duty Death	153,800	185,483	0.2060	0.0009	**Fail**	Pass	Pass
Non-Duty Disability	440,299	462,891	0.0513	0.0006	**Fail**	Pass	Pass
Duty Disability	358,897	382,393	0.0655	0.0006	**Fail**	Pass	Pass
Return of Contributions	9,803	13,548	0.3820	0.0001	**Fail**	Pass	Pass
Subtotal	$ 17,637,318	$ 18,260,829	0.0354	0.0168	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 17,637,318**	**$ 18,260,829**	**0.0354**	**0.0168**	**Pass**	N/A	**Pass**
Count	57,531	57,531	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 40,243,874	$ 40,529,794	0.0071	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 14,063,402	$ 14,276,077	0.0151	0.0057	Pass	**Fail**	Pass
Terminated Vesteds	694,395	702,500	0.0117	0.0002	Pass	Pass	Pass
DROPs	4,655,312	4,760,847	0.0227	0.0028	Pass	Pass	Pass
Total Inactive	**$ 19,413,109**	**$ 19,739,424**	**0.0168**	**0.0088**	**Pass**	N/A	**Pass**
Total	**$ 37,050,427**	**$ 38,000,253**	**0.0256**	**0.0256**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Senior Management (SM) - - Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 176,281	$ 174,966	(0.0075)	(0.0003)	Pass	Pass	Pass
Retirement	1,599,988	1,645,800	0.0286	0.0099	Pass	**Fail**	Pass
Non-Duty Death	25,097	30,453	0.2134	0.0012	**Fail**	Pass	Pass
Duty Death	7,158	7,914	0.1056	0.0002	**Fail**	Pass	Pass
Non-Duty Disability	22,718	24,607	0.0831	0.0004	**Fail**	Pass	Pass
Duty Disability	3,433	3,801	0.1072	0.0001	**Fail**	Pass	Pass
Return of Contributions	2,110	2,151	0.0194	0.0000	Pass	Pass	Pass
Subtotal	$ 1,836,785	$ 1,889,692	0.0288	0.0114	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 1,836,785**	**$ 1,889,692**	**0.0288**	**0.0114**	**Pass**	N/A	**Pass**
Count	5,425	5,425	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 3,581,301	$ 3,716,638	0.0378	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 1,970,180	$ 2,004,439	0.0174	0.0074	Pass	**Fail**	Pass
Terminated Vesteds	177,565	179,698	0.0120	0.0005	Pass	Pass	Pass
DROPs	639,752	653,630	0.0217	0.0030	Pass	Pass	Pass
Total Inactive	**$ 2,787,497**	**$ 2,837,767**	**0.0180**	**0.0109**	**Pass**	N/A	**Pass**
Total	**$ 4,624,282**	**$ 4,727,459**	**0.0223**	**0.0223**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Regular (REG) +TRS+SCOERS + IFAS - - Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 7,390,121	$ 7,272,874	(0.0159)	(0.0009)	Pass	Pass	Pass
Retirement	41,322,529	43,001,767	0.0406	0.0131	Pass	**Fail**	Pass
Non-Duty Death	768,565	923,069	0.2010	0.0012	**Fail**	Pass	Pass
Duty Death	255,292	278,176	0.0896	0.0002	**Fail**	Pass	Pass
Non-Duty Disability	1,116,414	1,200,282	0.0751	0.0007	**Fail**	Pass	Pass
Duty Disability	118,858	130,400	0.0971	0.0001	**Fail**	Pass	Pass
Return of Contributions	88,908	89,099	0.0021	0.0000	Pass	Pass	Pass
Subtotal	$ 51,060,687	$ 52,895,667	0.0359	0.0144	Pass	N/A	Pass
Less PVF Contributions	520	520	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 51,060,167**	**$ 52,895,147**	**0.0359**	**0.0144**	**Pass**	N/A	**Pass**
Count	449,102	449,102	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$163,432,452	$ 167,707,572	0.0262	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 57,512,939	$ 58,581,311	0.0186	0.0084	Pass	**Fail**	Pass
Terminated Vesteds	4,306,006	4,407,758	0.0236	0.0008	Pass	Pass	Pass
DROPs	14,941,017	15,258,519	0.0213	0.0025	Pass	Pass	Pass
Total Inactive	**$ 76,759,962**	**$ 78,247,588**	**0.0194**	**0.0116**	**Pass**	N/A	**Pass**
Total	**$ 127,820,129**	**$ 131,142,735**	**0.0260**	**0.0260**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Judicial (J) - - Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 34,580	$ 34,112	(0.0135)	(0.0003)	Pass	Pass	Pass
Retirement	424,309	443,936	0.0463	0.0132	Pass	**Fail**	Pass
Non-Duty Death	15,235	19,431	0.2754	0.0028	**Fail**	Pass	Pass
Duty Death	3,078	2,995	(0.0270)	(0.0001)	Pass	Pass	Pass
Non-Duty Disability	9,493	9,941	0.0472	0.0003	Pass	Pass	Pass
Duty Disability	1,541	1,639	0.0636	0.0001	**Fail**	Pass	Pass
Return of Contributions	54	258	3.7778	0.0001	**Fail**	Pass	Pass
Subtotal	$ 488,290	$ 512,312	0.0492	0.0161	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 488,290**	**$ 512,312**	**0.0492**	**0.0161**	**Pass**	N/A	**Pass**
Count	727	727	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 940,783	$ 950,994	0.0109	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 700,027	$ 712,981	0.0185	0.0087	Pass	**Fail**	Pass
Terminated Vesteds	19,788	20,065	0.0140	0.0002	Pass	Pass	Pass
DROPs	280,119	286,539	0.0229	0.0043	Pass	Pass	Pass
Total Inactive	**$ 999,934**	**$ 1,019,585**	**0.0197**	**0.0132**	**Pass**	N/A	**Pass**
Total	**$ 1,488,224**	**$ 1,531,897**	**0.0293**	**0.0293**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Legislative - Attorney - Cabinet (ESO) - - Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 5,875	$ 5,811	(0.0109)	(0.0005)	Pass	Pass	Pass
Retirement	16,240	16,971	0.0450	0.0059	Pass	**Fail**	Pass
Non-Duty Death	641	826	0.2886	0.0015	**Fail**	Pass	Pass
Duty Death	145	147	0.0138	0.0000	Pass	Pass	Pass
Non-Duty Disability	386	414	0.0725	0.0002	**Fail**	Pass	Pass
Duty Disability	70	76	0.0857	0.0000	**Fail**	Pass	Pass
Return of Contributions	26	31	0.1923	0.0000	**Fail**	Pass	Pass
Subtotal	$ 23,383	$ 24,276	0.0382	0.0072	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 23,383**	**$ 24,276**	**0.0382**	**0.0072**	**Pass**	N/A	**Pass**
Count	112	112	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 43,153	$ 45,020	0.0433	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 75,591	$ 76,568	0.0129	0.0079	Pass	**Fail**	Pass
Terminated Vesteds	10,705	11,113	0.0381	0.0033	Pass	Pass	Pass
DROP Subtotal	14,344	14,651	0.0214	0.0025	Pass	Pass	Pass
Total Inactive	**$ 100,640**	**$ 102,332**	**0.0168**	**0.0136**	**Pass**	N/A	**Pass**
Total	**$ 124,023**	**$ 126,608**	**0.0208**	**0.0208**	**Pass**	N/A	**Pass**

FLORIDA RETIREMENT SYSTEM

($ 000)

Elected County Officers (ECO) - - Future DROPs Retirement Rates

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 24,208	$ 23,811	(0.0164)	(0.0006)	Pass	Pass	Pass
Retirement	143,893	148,593	0.0327	0.0066	Pass	**Fail**	Pass
Non-Duty Death	4,524	5,708	0.2617	0.0017	**Fail**	Pass	Pass
Duty Death	951	975	0.0252	0.0000	Pass	Pass	Pass
Non-Duty Disability	2,539	2,743	0.0803	0.0003	**Fail**	Pass	Pass
Duty Disability	426	473	0.1103	0.0001	**Fail**	Pass	Pass
Return of Contributions	142	183	0.2887	0.0001	**Fail**	Pass	Pass
Subtotal	$ 176,683	$ 182,486	0.0328	0.0082	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 176,683**	**$ 182,486**	**0.0328**	**0.0082**	**Pass**	N/A	**Pass**
Count	842	842	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 313,871	$ 324,180	0.0328	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 444,850	$ 451,808	0.0156	0.0098	Pass	**Fail**	Pass
Terminated Vesteds	24,890	25,796	0.0364	0.0013	Pass	Pass	Pass
DROPs	62,103	63,325	0.0197	0.0017	Pass	Pass	Pass
Total Inactive	**$ 531,843**	**$ 540,929**	**0.0171**	**0.0128**	**Pass**	N/A	**Pass**
Total	**$ 708,526**	**$ 723,415**	**0.0210**	**0.0210**	**Pass**	N/A	**Pass**