Program Review

Florida Retirement System Pension Plan Valuation Met Standards

Report No. 11-17 May 2011

Office of Program Policy Analysis & Government Accountability
an office of the Florida Legislature

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The Florida Legislature

OFFICE OF PROGRAM POLICY ANALYSIS AND GOVERNMENT ACCOUNTABILITY

Kathy McGuire, Acting Coordinator

May 2011

The President of the Senate,
the Speaker of the House of Representatives,
and the Joint Legislative Auditing Committee

Section 112.658, *Florida Statutes*, directs the Office of Program Policy Analysis and Government Accountability to review the actuarial valuation of the Florida Retirement System Pension Plan to determine whether the valuation complies with the Florida Protection of Public Employee Retirement Benefits Act, Ch. 112, Part VII, *Florida Statutes*. The results of these reviews are presented to you in this report. To complete the reviews, we contracted with Gabriel Roeder Smith & Company to serve as our actuarial consultant. Linda Vaughn, Senior Legislative Analyst, conducted the review under the supervision of Kara Collins-Gomez, Staff Director.

We wish to express our appreciation to the staff of the Florida Department of Management Services for their assistance.

Sincerely,

Kathy McGuire

Kathy McGuire
Acting Coordinator

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Summary

Florida Retirement System Pension Plan Valuation Met Standards

Our actuarial consultant, Gabriel Roeder Smith & Company, reviewed the Florida Retirement System's 2010 valuation report and concluded that it was conducted in accordance with relevant state laws and rules and actuarial standards. Our consultant further concluded that the assumptions and methods used in the 2010 valuation were generally reasonable. The 2010 actuarial valuation determined that the plan had an unfunded actuarial liability of $16.7 billion as of July 1, 2010.

Our consultant also made several observations. For example, our consultant noted that the 2010 valuation disclosed the actuarial present value of future benefits and the actuarial present values of future pay. However, these values do not take into account an assumption for the probability that system members will participate in the Deferred Retirement Option Program (DROP) and may understate the actuarial liability by $2.02 billion. As a result, our consultant continues to believe that future valuations should include such disclosures that fully reflect the effect of expected DROP participation (page 9).

Additionally, our consultant noted that the payroll growth assumption understates actual payroll growth experience. As a result, amortization of the actuarial liability may be understated by between $210 and $270 million. To address this issue, our consultant believes that future Florida Retirement System actuarial reports should include disclosure of the 10-year history of payroll growth using the unfunded actuarial liability funding approach (page 4). Our consulting actuary also noted that while not unreasonable, the inactive healthy mortality rate assumptions appear conservative (page 8).

Finally, our consultant continues to believe that the valuation would be improved by providing prior year results in a side-by-side comparison with current year results as appropriate (pages 11-14).

Gabriel Roeder Smith & Company's report on the 2010 actuarial valuation is presented in its entirety in Appendix A, beginning on page 8. The Secretary of the Department of Management Services provided a written response to our preliminary report, which is reprinted in Appendix B, page 42.

Florida Retirement System Pension Plan Valuation Met Standards

Scope

Section 112.658, *Florida Statutes*, directs the Office of Program Policy Analysis and Government Accountability (OPPAGA) to review the 2010 actuarial valuation of the Florida Retirement System Pension Plan to determine whether it complies with provisions of the Florida Protection of Public Employee Retirement Benefits Act.[1] The Act establishes reporting and disclosure standards for actuarial reports on state and local government retirement plans. These reports must address the adequacy of employer contribution rates, assess the plan's assets and projected liabilities, and use actuarial cost methods approved by the Employee Retirement Income Security Act of 1974 and as permitted under regulations prescribed by the U.S. Secretary of the Treasury. The Act requires OPPAGA to use the same actuarial standards the Department of Management Services uses to monitor local government pension plans.

Our review objectives were to determine whether the Department of Management Services' consulting actuary conducted the 2010 actuarial valuation of the Florida Retirement System Pension Plan using generally accepted and statutorily required standards, methods, and procedures; whether the valuation's results were reasonable; and whether the plan continued to have sufficient assets to pay future benefits when due. To complete this review, OPPAGA contracted with Gabriel Roeder Smith & Company to serve as its actuarial consultant.

[1] Sections 112.60-67, *F.S.*

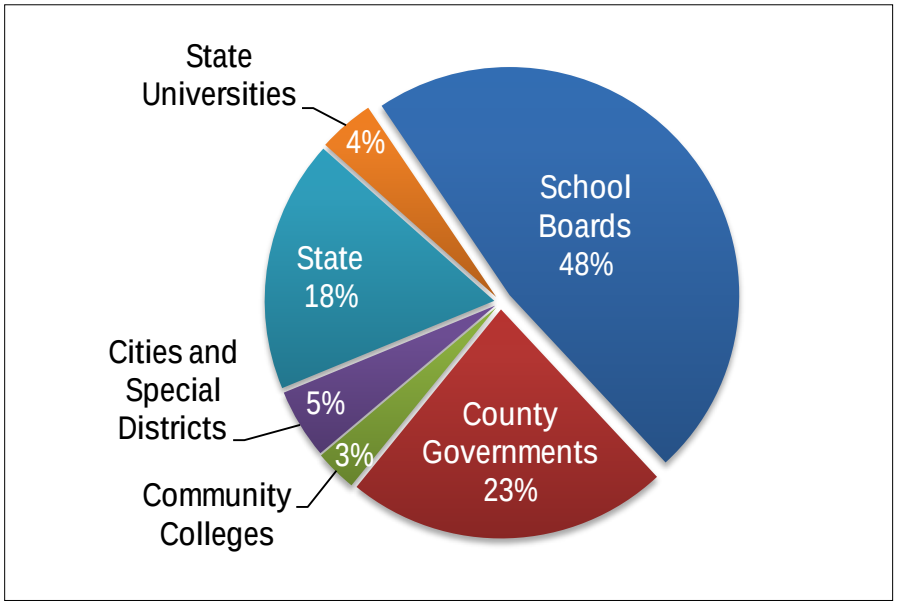
Background

Florida law requires the Department of Management Services to conduct an actuarial valuation of the Florida Retirement System (FRS) pension plan annually and report the results to the Legislature by December 31 prior to the next legislative session. The department contracted with Milliman to conduct the valuation, which will be used to

- determine the contribution rates needed to cover the plan's normal costs (the percentage of salary needed to be contributed each year to cover the cost of future benefits owed system members);
- determine the contribution rates needed to amortize any unfunded actuarial liability (the amount of pension liabilities not covered by contributions made at the normal cost rate or by investment of plan assets); and
- assess the system's funding status (the ability of system assets to cover its liabilities).

State law requires membership in the Florida Retirement System for all full- and part-time employees working in a regularly established position for a state agency, county government, district school board, state university, state college, or participating city or special district. As shown in Exhibit 1, in Fiscal Year 2009-10, school district employees comprised the largest percentage of FRS members (48%), followed by county (23%) and state employees (18%).

Exhibit 1
School Districts Comprise the Largest Portion of FRS Members



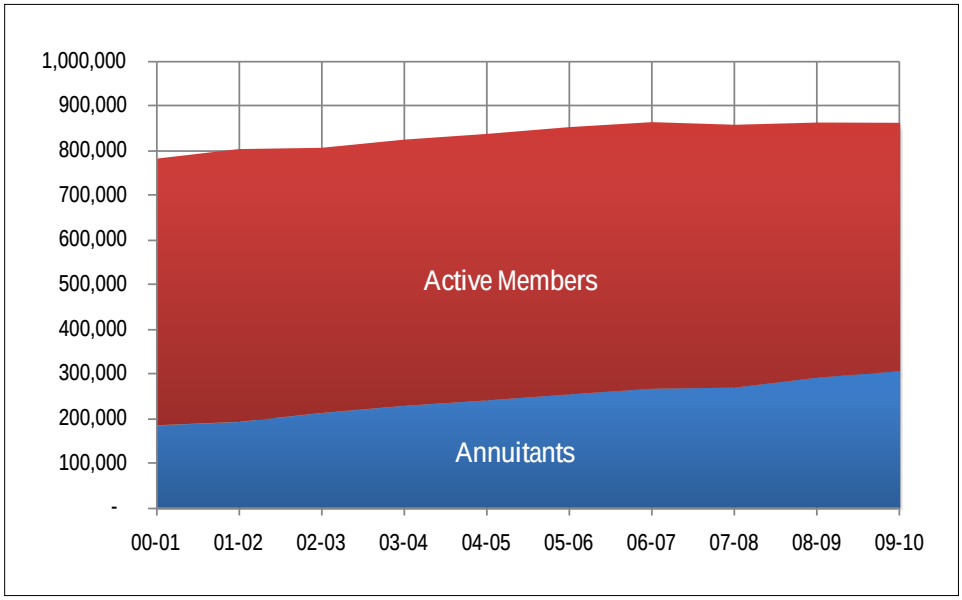
Source: Division of Retirement.

There are two FRS retirement plans. Florida Retirement System members may choose to join either the Investment Plan or the Pension Plan.

The Investment Plan is modeled after private sector 401(k) plans, with employers contributing a set percentage of employees' salaries to the plan each year and plan members selecting among 21 investment options. After working at least one year, retiring members of this plan receive the amount of money that has accrued. As of June 30, 2010, there were 97,782 participants in the Investment Plan, and the plan's net asset value was $5.05 billion.

For the Pension Plan, employers also contribute a set percentage of employees' salaries, with employees receiving a defined monthly benefit upon retirement if they have been FRS members for at least six years and meet other age and eligibility requirements. As of June 30, 2010, the Pension Plan had a net asset value was $109.3 billion, with 557,585 active participants and 304,337 retiree annuitants. Exhibit 2 shows growth in active members and annuitants since Fiscal Year 2000-01.

Exhibit 2
The Number of Annuitants Is Growing Faster Than the Number of Active FRS Pension Plan Members



Source: Division of Retirement.

Two state agencies administer the Pension Plan and Investment Plan. The Department of Management Services' Division of Retirement and the State Board of Administration (SBA) manage the two retirement plans. The division provides administrative services for the Pension Plan by tracking enrollment, receiving employer contributions, and publishing actuarial and statistical information about the membership in its annual report. For Fiscal Year 2010-11, the division had a legislative appropriation of $36.3 million and 194 authorized positions. The SBA invests FRS Pension Plan Trust Fund monies to help ensure that investment returns are sufficient to fund current and future pensioners. The board also administers the defined contribution Investment Plan. Its operational and administrative expenses are funded through fees derived from its investment management services and employer contributions to the retirement system. In Fiscal Year 2009-10, the board collected $19,969,854 in fees and had a budget of $30,679,593 and 178.5 authorized positions.

Findings

The Pension Plan's 2010 valuation was conducted in accordance with standards, and its assumptions and methods are reasonable

Our contracted actuary, Gabriel Roeder Smith & Company, replicated the results of the Department of Management Services' actuary and found no material differences in valuation results. Information provided by the department's actuary was sufficient for our consulting actuary to appraise the findings and arrive at reasonably similar results. In general, the Pension Plan's 2010 valuation was conducted in accordance with standards and its assumptions and methods were deemed reasonable.

However, our consulting actuary noted that the

- treatment of the Deferred Retirement Option Program (DROP) is nontraditional and may understate the actuarial liability by $2.02 billion;
- actuarial assumptions for the inactive healthy mortality rates appear conservative when compared to actual experience; and
- payroll growth assumption overstates actual payroll growth experience over the last 10 years and may understate the amortization component of total required contributions by between $210 and $270 million.

The treatment of DROP is nontraditional and may understate the actuarial liability. Our consulting actuary continued to note that two methods are used to calculate DROP. One method is used to determine the effect of DROP on the actuarial valuation and for measurement of the system's

unfunded liability, and a second method is used to determine the required contribution for each employee class (e.g., Regular, Special Risk, and Elected Officers classes).

Our consulting actuary also concluded that the method used to determine the effect on the actuarial valuation did not reflect the probability of future DROP participation by active members. A method that factors in the future DROP participation by active members would have added another $2.02 billion to the unfunded actuarial liability—increasing it from $16.7 billion to $18.7 billion.

Actuarial assumptions for the inactive healthy mortality rates appear conservative when compared to actual experience. Our consulting actuary continued to note that while not unreasonable, the inactive healthy mortality rates used by the department's actuary continue to appear conservative. Consequently, our actuary believes that liabilities are overstated due to the use of conservative inactive mortality assumptions when compared to actual FRS inactive mortality experience.

The payroll growth assumption exceeds actual payroll growth and may understate amortization of the actuarial liability. Our consulting actuary reported that the department's actuary used a 4% payroll growth assumption, which overstates actual payroll for the last 10 years. As shown in Exhibit 3, actual FRS payroll growth has averaged 2.08% since 2001.

Exhibit 3
Average FRS Payroll Growth During a 10-Year Period Was About 2%

Fiscal Year Ended	Payroll Growth
June 30, 2010	-3.37%
June 30, 2009	-1.63%
June 30, 2008	2.00%
June 30, 2007	4.23%
June 30, 2006	4.72%
June 30, 2005	4.09%
June 30, 2004	3.94%
June 30, 2003	0.68%
June 30 ,2002	2.7%
June 30, 2001	3.70%
Average	**2.08%**

Source: *July 1, 2010 Actuarial Valuation of the Florida Retirement System for the Office of Program Policy Analysis and Government Accountability*, Gabriel Roeder Smith & Company, March 4, 2011.

Our consulting actuary estimated that use of the 4% payroll growth assumption rather than the 2.08% average actual payroll growth understates the amortization component of the total required contributions from 0.75% - 1% of covered payroll, with an estimated dollar amount of understatement ranging from $210 to $270 million.

In 2010, the Pension Plan's actuarial liabilities exceeded assets by $16.7 billion

Actuarial valuations provide a means to assess whether pension assets are sufficient to cover pension liabilities. As of June 30, 2010, the Pension Plan's funding ratio (i.e., the ratio of the actuarial value of the plan's assets to the actuarial value of benefits owed to members and their beneficiaries) was 87.9%. This means that at that time, the plan did not have sufficient assets to pay current and future expected benefits for participants and their beneficiaries. Actuarially, the plan has a shortfall of $16.7 billion.[2]

Conclusions

Gabriel Roeder Smith & Company noted several approaches that could be used to address issues noted in its review of the 2010 actuarial valuation of the Florida Retirement System Pension Plan. Specifically, the consultant believes that the FRS actuarial valuation should

- include disclosures of the normal costs and actuarial gains and losses fully reflecting the DROP, as well as the disclosure of the present value of future benefits fully reflecting the DROP;
- disclose the 10-year history of payroll growth using the unfunded actuarial liability funding approach; and
- provide prior year results along with side-by-side current year results as appropriate.

[2] By law, the unfunded actuarial liability must be amortized over a 30-year period.

Appendix A

ACTUARIAL REVIEW

OF THE

July 1, 2010 Actuarial Valuation

of the

Florida Retirement System

FOR THE

OFFICE OF PROGRAM POLICY ANALYSIS

AND GOVERNMENT ACCOUNTABILITY

Submitted by:

GRS

Gabriel Roeder Smith & Company

March 4, 2011

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March 4, 2011

Mr. Gary VanLandingham
Director
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. VanLandingham:

As requested, we have completed our actuarial review of the July 1, 2010 Actuarial Valuation Report of the Florida Retirement System (FRS) prepared by Milliman.

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, 2010 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, the 4% payroll growth assumption may not conform to F.S., 112.64(5). Government Accounting Standards Board Statements 25 and 27 may require use of a statutory compliant payroll growth assumption.
2. The Department's actuaries for the most part use generally accepted actuarial cost methods, bases for assumptions and reporting standards. 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, the assumed inactive healthy mortality rates appear conservative. While the 4% payroll growth assumption may not be unreasonable, the 4% payroll growth assumption may not conform to F.S., 112.64(5).

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. 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.
Senior Consultant and Actuary

Jennifer Borregard

Jennifer M. Borregard, E.A.
Senior Analyst

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 analysis. 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, 2010 Actuarial Valuation Report and includes a replication of the July 1, 2010 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, 2010 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, 2010 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. Similarly acceptable actuarial methods impact the incidence of required contributions.

In this light, we have the following comments on the July 1, 2010 Actuarial Valuation.

1. **Compliance with requirements of the Florida Statutes, Department rules, government accounting standards and actuarial standards of practice:** Overall, the actuarial valuation is compliant with these requirements. However, the treatment of the Deferred Retirement Option Program (DROP) appears to continue to be somewhat nontraditional. While the 4% payroll growth assumption may not be unreasonable, the payroll growth assumption may not conform to F.S., 112.64(5). Government Accounting Standards Board Statements 25 and 27 may require use of a statute compliant payroll growth assumption.

2. **Use of generally accepted actuarial cost methods, bases for assumptions and reporting standards:** Generally, the Actuarial Valuation meets these requirements. The treatment of the Deferred Retirement Option Program (DROP) may continue to be a somewhat nontraditional *actuarial cost method.*

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. 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, 2010 was $2.116 billion based upon the System provisions / actuarial assumptions in the July 1, 2009 Actuarial Valuation - $2.855 billion loss on investments offset by $0.739 billion gain on

liabilities. The reported reduction in unfunded accrued liability resulting from the change in System provisions / actuarial assumptions was $1.111 billion. For the previous year ended June 30, 2009, there was a reported actuarial loss of $18.370 billion based upon the actuarial assumptions used for funding in the July 1, 2008 Actuarial Valuation - $18.704 billion loss on investments offset by $0.334 billion gain on liabilities. The reported increase in unfunded accrued liability resulting from the change in actuarial assumptions used for funding was $5.854 billion. Reported actuarial gains and losses are impacted by continued use of the somewhat nontraditional treatment of the DROP.

The actuarial value of assets as of June 30, 2010 exceeds the market value of assets by $11.419 billion. The $11.419 billion unrecognized investment losses will need to be recognized over the next four years. As of June 30, 2009 unrecognized investment losses totaled $19.794 billion.

As a subsequent event, the actuarial valuation report shows the market value of assets increased from $109.5 billion as of June 30, 2010 to $111.6 billion as of August 31, 2010.

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 non-traditional.

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 actuarial value of assets may warrant further review.

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, 2010 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 may be generally compliant with these requirements.

However, we believe some of the requirements of the Florida Statutes and Department rules could conflict with government accounting standards and generally accepted actuarial standards of practice. The continued nontraditional treatment of the DROP appears to have a significant impact on the size of the reported unfunded accrued liability ($16.7 billion – no future DROPs vs. $18.7 billion expected future DROPs).

In addition, we believe the use of a 4% payroll growth assumption may not conform to F.S., 112.64(5) 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 10 years is less (2.08%) as disclosed in the annual actuarial valuations and the growth rate reported in the 2002-2003 FRS Annual Report as follows:

Fiscal Year Ended	Payroll Growth
June 30, 2010	-3.37%
June 30, 2009	-1.63%
June 30, 2008	2.00%
June 30, 2007	4.23%
June 30, 2006	4.72%
June 30, 2005	4.09%
June 30, 2004	3.94%
June 30, 2003	0.68%
June 30, 2002	2.77%
June 30, 2001	3.70%
Ten-Year Average	2.08%

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.*

We estimate use of the 4% payroll growth assumption as opposed to a 2.08% payroll growth assumption derived from System experience understates the amortization component of the total required contributions from 0.75% - 1.00% of covered payroll. We estimate the dollar amount of understatement to range from $210 to $270 million.

Government Accounting Standards Board (GASB) Statements 25 and 27 may 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.

We estimate use of the 4% payroll growth assumption as opposed to a 2.08% payroll growth assumption derived from System experience understates the amortization component of the GASB Statements 25 / 27 accounting Annual Required Contribution (ARC) and Annual Pension Cost (APC) by 0.80% - 1.10% of covered payroll. We estimate the dollar amount of understatement to range from $220 to $280 million.

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 assets which would have accumulated to date had contributions been made at the level of the normal cost since the date of the first benefit accrual, all actuarial assumptions had been exactly realized and there had been no benefit changes.

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.

The method used in the valuation for FRS is the Entry Age Normal Method. The normal cost under this method is the annual cost, expressed as a level percentage of pay, which will support the benefits of the System. Entry Age Normal is the most prevalent funding method in the public sector. It is appropriate for the public sector, in part, because it produces costs that remain stable as a percentage of payroll over time, resulting in intergenerational equity for taxpayers.

There is an area in which the application of the Entry Age Normal Method in the FRS valuation is non-traditional.

This issue deals with the *policy* decision for treatment of the Deferred Retirement Option (DROP) program.

As stated on pages I-16 and I-17 of the July 1, 2010 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 - 4 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 - 4 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 - 4 of the Report).

1. Table IV – 4 of the July 1, 2010 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 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 is 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 actuarial valuation shows that use of the actuarial accrued liability determined under the Step 2 approach would increase the reported July 1, 2010 unfunded accrued liability by $2.017 billion.

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

For the most part, the actuarial valuation meets these requirements. As explained above (paragraph A), any use of the RSM is a somewhat nontraditional *actuarial cost method. The nontraditional treatment of DROPs understates plan liabilities.* Our discussion of certain aspects of the actuarial cost methods are included in paragraph A above.

The use of a 4% payroll growth assumption does not appear to be supported by the information disclosed in prior Actuarial Valuation Reports and System Annual Reports. In fact, payroll growth experience disclosed during the most recent 10-year period ended June 30, 2010 has averaged 2.08% per annum. F.S., 112.65(5) generally requires the payroll growth assumption NOT exceed the rate of payroll growth experience over the latest 10-year period.

Further, disclosed payroll growth has been negative during the most recent two years.

We estimate the use of a 4% payroll growth assumption understates required amortization payments by 0.75% - 1.00% of covered payroll when contrasted to a 2.08% payroll growth assumption.

The retirement assumptions were updated and first implemented for this 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. 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 are 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 process, the actuary should review the set of economic assumptions for consistency.

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.

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 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 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 A).

   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.

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.*

   Except for the economic assumptions referred to in Paragraph B, the actuarial assumptions were for the most part examined in the recently completed Experience Study.

   In Paragraph B (above) we have provided our insights regarding the economic and demographic assumptions in light of the Experience Study.

   In Paragraph B, 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, 2010 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 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 $2.116 billion** during fiscal year ended June 30, 2010 - $2.855 billion loss from investments / $0.739 billion gain from liabilities. This amount is not explicitly shown in the Executive Summary, as the amount shown in the Executive Summary includes the impact of the change in System provisions / actuarial assumptions. We believe this is a key result which should be readily available to reader of this actuarial valuation report. 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-10 of the Report. We note that the most significant source of liability actuarial (gain) / loss identified this year is a $2.639 billion gain due to *Salary Increases less than expected.* Last year there was an actuarial gain of $1.968 billion due to *Salary Increases less than expected.*

We also note a substantial loss of $1.632 billion due to *Inactive Data Clean-Up.* During the previous two years, a major source of actuarial (gain) / loss identified were losses due to *Inactive Data Clean-Up* of $1.533 billion and $1.369 billion, respectively. We understand a major part of this liability is a result of the valuation actuary's overstatement of mortality gains for the death of retired members who have elected joint and survivor benefits. We understand these 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.

We also note a substantial gain of $1.967 billion due to the miscellaneous *Demographics/Other.* This is a substantial amount of unallocated experience gain (increased from a gain of $1.255 billion last year). This gain should be analyzed by source.

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.

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 retirement assumptions) 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 the DROP 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, 2010 actuarial value of assets method starts with the July 1, 2009 actuarial value of assets and determines an expected actuarial value of assets as of July 1, 2010 assuming the expected fund return (7.75% for fiscal 2010) recognizing non-investment cash flows. The July 1, 2010 actuarial value of assets is the July 1, 2010 expected actuarial value plus 20% of the excess (deficiency) of July 1, 2010 market value of assets over the July 1, 2010 expected value of assets.

We believe this actuarial value of assets method is an acceptable method under Treasury regulations and complies with Florida statute (rolling 5-year average). However, we note that under prior IRS rules, if a private retirement plan covered by the above Treasury regulation were to switch from another approved method to this method, the private retirement plan would require prior IRS approval. 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 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.

Replication of July 1, 2010

Actuarial Valuation Results

IV. Replication of key financial results of the July 1, 2010 Actuarial Valuation

In this phase of the review, GRS reviewed the calculated values (present value of benefits) supplied by the Department's 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 non-duty disability for active Special Risk Administrative (No Future DROP Retirement Rates) (SRA) Class members is 215. A GRS calculation of above 225 or below 205 would fail this 5.0% test. In fact, GRS calculated 226, which is only off by eleven (11) but fails the percentage test (5.12%).

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 non-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

GRAND TOTAL - - No Future DROPs Retirement Rates

($ 000)

Active PVFB	Milliman	GRS	Liability Ratio Individual	Liability Ratio Total	Liability Test Individual 5%	Liability Test PVFB 0.5%	Liability Test Composite
Withdrawal / Early Retirement	$ 11,518,729	$ 11,332,843	(0.0161)	(0.0011)	Pass	Pass	Pass
Retirement	70,586,695	72,245,856	0.0235	0.0100	Pass	**Fail**	Pass
Non-Duty Death	1,574,653	1,697,113	0.0778	0.0007	**Fail**	Pass	Pass
Duty Death	584,387	659,399	0.1284	0.0005	**Fail**	Pass	Pass
Non-Duty Disability	2,087,851	2,222,123	0.0643	0.0008	**Fail**	Pass	Pass
Duty Disability	650,069	696,583	0.0716	0.0003	**Fail**	Pass	Pass
Return of Contributions	81	194	1.3940	0.0000	**Fail**	Pass	Pass
Subtotal	$ 87,002,465	$ 88,854,111	0.0213	0.0111	Pass	N/A	Pass
Less PVF Contributions	2,014	2,014	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 87,000,451**	**$ 88,852,097**	**0.0213**	**0.0111**	**Pass**	N/A	**Pass**
Count	556,296	556,296	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 236,967,139	$ 244,516,414	0.0319	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 59,953,975	$ 60,779,047	0.0138	0.0050	Pass	Pass	Pass
Terminated Vesteds	4,513,427	4,542,150	0.0064	0.0002	Pass	Pass	Pass
DROPs	14,937,073	15,131,591	0.0130	0.0012	Pass	Pass	Pass
Total Inactive	**$ 79,404,475**	**$ 80,452,788**	**0.0132**	**0.0063**	**Pass**	N/A	**Pass**
Total	**$ 166,404,926**	**$ 169,304,885**	**0.0174**	**0.0174**	**Pass**	N/A	**Pass**

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FLORIDA RETIREMENT SYSTEM

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

($ 000)

Active PVFB	Milliman	GRS	Liability Ratio Individual	Liability Ratio Total	Liability Test Individual 5%	Liability Test PVFB 0.5%	Liability Test Composite
Withdrawal / Early Retirement	$ 2,571	$ 2,791	0.0856	0.0024	**Fail**	Pass	Pass
Retirement	10,308	10,269	(0.0038)	(0.0004)	Pass	Pass	Pass
Non-Duty Death	136	113	(0.1691)	(0.0003)	**Fail**	Pass	Pass
Duty Death	78	84	0.0769	0.0001	**Fail**	Pass	Pass
Non-Duty Disability	215	226	0.0512	0.0001	**Fail**	Pass	Pass
Duty Disability	185	200	0.0811	0.0002	**Fail**	Pass	Pass
Return of Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Subtotal	$ 13,493	$ 13,683	0.0141	0.0021	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 13,493**	**$ 13,683**	**0.0141**	**0.0021**	**Pass**	N/A	**Pass**
Count	53	53	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 17,498	$ 18,046	0.0313	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 72,276	$ 73,713	0.0199	0.0159	Pass	**Fail**	Pass
Terminated Vesteds	1,621	1,632	0.0068	0.0001	Pass	Pass	Pass
DROPs	3,014	3,051	0.0123	0.0004	Pass	Pass	Pass
Total Inactive	**$ 76,911**	**$ 78,396**	**0.0193**	**0.0164**	**Pass**	N/A	**Pass**
Total	**$ 90,404**	**$ 92,079**	**0.0185**	**0.0185**	**Pass**	N/A	**Pass**

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FLORIDA RETIREMENT SYSTEM

Special Risk (SR) - - 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	$ 1,884,341	$ 1,861,243	(0.0123)	(0.0006)	Pass	Pass	Pass
Retirement	18,553,600	18,929,128	0.0202	0.0103	Pass	**Fail**	Pass
Non-Duty Death	410,791	511,081	0.2441	0.0028	**Fail**	Pass	Pass
Duty Death	215,354	260,645	0.2103	0.0012	**Fail**	Pass	Pass
Non-Duty Disability	583,298	612,389	0.0499	0.0008	Pass	Pass	Pass
Duty Disability	482,944	514,597	0.0655	0.0009	**Fail**	Pass	Pass
Return of Contributions	35	51	0.4571	0.0000	**Fail**	Pass	Pass
Subtotal	$ 22,130,363	$ 22,689,134	0.0252	0.0153	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 22,130,363**	**$ 22,689,134**	**0.0252**	**0.0153**	**Pass**	N/A	**Pass**
Count	64,734	64,734	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 45,673,429	$ 46,569,157	0.0196	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 10,660,605	$ 10,794,356	0.0125	0.0037	Pass	Pass	Pass
Terminated Vesteds	598,110	602,013	0.0065	0.0001	Pass	Pass	Pass
DROPs	3,043,731	3,083,883	0.0132	0.0011	Pass	Pass	Pass
Total Inactive	**$ 14,302,446**	**$ 14,480,252**	**0.0124**	**0.0049**	**Pass**	N/A	**Pass**
Total	**$ 36,432,809**	**$ 37,169,386**	**0.0202**	**0.0202**	**Pass**	N/A	**Pass**

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FLORIDA RETIREMENT SYSTEM

Senior Management (SM) - - 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	$ 225,092	$ 222,102	(0.0133)	(0.0007)	Pass	Pass	Pass
Retirement	1,887,368	1,896,708	0.0049	0.0023	Pass	Pass	Pass
Non-Duty Death	35,044	37,055	0.0574	0.0005	**Fail**	Pass	Pass
Duty Death	9,781	10,661	0.0900	0.0002	**Fail**	Pass	Pass
Non-Duty Disability	29,624	31,700	0.0701	0.0005	**Fail**	Pass	Pass
Duty Disability	4,494	4,911	0.0928	0.0001	**Fail**	Pass	Pass
Return of Contributions	22	25	0.1364	0.0000	**Fail**	Pass	Pass
Subtotal	$ 2,191,425	$ 2,203,162	0.0054	0.0028	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$2,191,425**	**$2,203,162**	**0.0054**	**0.0028**	**Pass**	N/A	**Pass**
Count	5,693	5,693	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 4,070,009	$ 4,235,114	0.0406	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 1,299,690	$ 1,318,137	0.0142	0.0045	Pass	Pass	Pass
Terminated Vesteds	143,826	144,739	0.0063	0.0002	Pass	Pass	Pass
DROPs	496,654	503,472	0.0137	0.0017	Pass	Pass	Pass
Total Inactive	**$1,940,170**	**$1,966,348**	**0.0135**	**0.0063**	**Pass**	N/A	**Pass**
Total	**$4,131,595**	**$4,169,510**	**0.0092**	**0.0092**	**Pass**	N/A	**Pass**

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

($ 000)

			Liability Ratio		Liability Test: Individual 5%	Liability Test: PVFB 0.5%	Liability Test: Composite
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**			
Withdrawal / Early Retirement	$ 9,324,355	$ 9,166,397	(0.0169)	(0.0013)	Pass	Pass	Pass
Retirement	49,463,499	50,733,119	0.0257	0.0103	Pass	**Fail**	Pass
Non-Duty Death	1,102,083	1,116,969	0.0135	0.0001	Pass	Pass	Pass
Duty Death	353,707	382,726	0.0820	0.0002	**Fail**	Pass	Pass
Non-Duty Disability	1,459,179	1,561,627	0.0702	0.0008	**Fail**	Pass	Pass
Duty Disability	159,878	174,150	0.0893	0.0001	**Fail**	Pass	Pass
Return of Contributions	24	113	3.7083	0.0000	**Fail**	Pass	Pass
Subtotal	$ 61,862,725	$ 63,135,101	0.0206	0.0103	Pass	N/A	Pass
Less PVF Contributions	2,014	2,014	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 61,860,711**	**$ 63,133,087**	**0.0206**	**0.0103**	**Pass**	N/A	**Pass**
Count	484,042	484,042	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 185,779,947	$ 192,243,157	0.0348	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 46,943,126	$ 47,599,297	0.0140	0.0053	Pass	**Fail**	Pass
Terminated Vesteds	3,714,057	3,737,610	0.0063	0.0002	Pass	Pass	Pass
DROPs	11,034,495	11,177,032	0.0129	0.0012	Pass	Pass	Pass
Total Inactive	**$ 61,691,678**	**$ 62,513,939**	**0.0133**	**0.0067**	**Pass**	N/A	**Pass**
Total	**$ 123,552,389**	**$ 125,647,026**	**0.0170**	**0.0170**	**Pass**	N/A	**Pass**

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FLORIDA RETIREMENT SYSTEM **Judicial (J) - - No Future DROPs Retirement Rates**

($ 000)

			Liability Ratio		Liability Test: Individual 5%	Liability Test: PVFB 0.5%	Liability Test: Composite
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**			
Withdrawal / Early Retirement	$ 42,930	$ 42,022	(0.0212)	(0.0007)	Pass	Pass	Pass
Retirement	487,598	491,486	0.0080	0.0028	Pass	Pass	Pass
Non-Duty Death	19,818	23,897	0.2058	0.0029	**Fail**	Pass	Pass
Duty Death	4,000	3,815	(0.0463)	(0.0001)	Pass	Pass	Pass
Non-Duty Disability	11,843	12,261	0.0353	0.0003	Pass	Pass	Pass
Duty Disability	1,938	2,037	0.0511	0.0001	**Fail**	Pass	Pass
Return of Contributions	0	2	199.0000	0.0000	**Fail**	Pass	Pass
Subtotal	$ 568,127	$ 575,520	0.0130	0.0053	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 568,127**	**$ 575,520**	**0.0130**	**0.0053**	**Pass**	N/A	**Pass**
Count	739	739	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 1,028,146	$ 1,040,286	0.0118	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 549,547	$ 557,056	0.0137	0.0054	Pass	**Fail**	Pass
Terminated Vesteds	16,956	17,066	0.0065	0.0001	Pass	Pass	Pass
DROPs	253,318	256,860	0.0140	0.0026	Pass	Pass	Pass
Total Inactive	**$ 819,821**	**$ 830,982**	**0.0136**	**0.0080**	**Pass**	N/A	**Pass**
Total	**$1,387,948**	**$1,406,502**	**0.0134**	**0.0134**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM **Legislative - Attorney - Cabinet (ESO) - - 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	$ 7,406	$ 7,199	(0.0280)	(0.0017)	Pass	Pass	Pass
Retirement	18,728	18,784	0.0030	0.0005	Pass	Pass	Pass
Non-Duty Death	830	994	0.1976	0.0014	**Fail**	Pass	Pass
Duty Death	189	191	0.0106	0.0000	Pass	Pass	Pass
Non-Duty Disability	475	500	0.0526	0.0002	**Fail**	Pass	Pass
Duty Disability	87	93	0.0690	0.0000	**Fail**	Pass	Pass
Return of Contributions	0	1	99.0000	0.0000	**Fail**	Pass	Pass
Subtotal	$ 27,715	$ 27,762	0.0017	0.0004	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 27,715**	**$ 27,762**	**0.0017**	**0.0004**	**Pass**	N/A	**Pass**
Count	117	117	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 46,384	$ 48,167	0.0384	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 60,349	$ 60,800	0.0075	0.0037	Pass	Pass	Pass
Terminated Vesteds	10,511	10,572	0.0058	0.0005	Pass	Pass	Pass
DROPs	22,707	23,026	0.0140	0.0026	Pass	Pass	Pass
Total Inactive	**$ 93,567**	**$ 94,398**	**0.0089**	**0.0069**	**Pass**	N/A	**Pass**
Total	**$ 121,282**	**$ 122,160**	**0.0072**	**0.0072**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM **Elected County Officials (ECO) - - 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	$ 32,034	$ 31,089	(0.0295)	(0.0014)	Pass	Pass	Pass
Retirement	165,594	166,362	0.0046	0.0011	Pass	Pass	Pass
Non-Duty Death	5,951	7,004	0.1769	0.0015	**Fail**	Pass	Pass
Duty Death	1,278	1,277	(0.0008)	0.0000	Pass	Pass	Pass
Non-Duty Disability	3,217	3,420	0.0631	0.0003	**Fail**	Pass	Pass
Duty Disability	543	595	0.0958	0.0001	**Fail**	Pass	Pass
Return of Contributions	0	2	199.0000	0.0000	**Fail**	Pass	Pass
Subtotal	$ 208,617	$ 209,749	0.0054	0.0016	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 208,617**	**$ 209,749**	**0.0054**	**0.0016**	**Pass**	N/A	**Pass**
Count	918	918	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 351,726	$ 362,487	0.0306	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 368,382	$ 375,688	0.0198	0.0106	Pass	**Fail**	Pass
Terminated Vesteds	28,346	28,518	0.0061	0.0002	Pass	Pass	Pass
DROPs	83,154	84,267	0.0134	0.0016	Pass	Pass	Pass
Total Inactive	**$ 479,882**	**$ 488,473**	**0.0179**	**0.0125**	**Pass**	N/A	**Pass**
Total	**$ 688,499**	**$ 698,222**	**0.0141**	**0.0141**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

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	$ 11,518,729	$ 11,332,841	(0.0161)	(0.0011)	Pass	Pass	Pass
Retirement	72,558,591	74,168,977	0.0222	0.0096	Pass	**Fail**	Pass
Non-Duty Death	1,387,670	1,476,408	0.0639	0.0005	**Fail**	Pass	Pass
Duty Death	541,459	611,151	0.1287	0.0004	**Fail**	Pass	Pass
Non-Duty Disability	1,943,734	2,075,916	0.0680	0.0008	**Fail**	Pass	Pass
Duty Disability	601,033	645,305	0.0737	0.0003	**Fail**	Pass	Pass
Return of Contributions	81	185	1.2829	0.0000	**Fail**	Pass	Pass
Subtotal	$ 88,551,297	$ 90,310,783	0.0199	0.0105	Pass	N/A	Pass
Less PVF Contributions	2,014	2,014	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 88,549,283**	**$ 90,308,769**	**0.0199**	**0.0105**	**Pass**	N/A	**Pass**
Count	556,296	556,296	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 225,403,324	$ 233,166,646	0.0344	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 59,953,975	$ 60,779,047	0.0138	0.0049	Pass	Pass	Pass
Terminated Vesteds	4,513,427	4,542,150	0.0064	0.0002	Pass	Pass	Pass
DROPs	14,937,073	15,131,591	0.0130	0.0012	Pass	Pass	Pass
Total Inactive	**$ 79,404,475**	**$ 80,452,788**	**0.0132**	**0.0062**	**Pass**	N/A	**Pass**
Total	**$ 167,953,758**	**$ 170,761,557**	**0.0167**	**0.0167**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM

($ 000)

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

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 2,571	$ 2,791	0.0856	0.0024	**Fail**	Pass	Pass
Retirement	10,475	10,433	(0.0040)	(0.0005)	Pass	Pass	Pass
Non-Duty Death	123	101	(0.1789)	(0.0002)	**Fail**	Pass	Pass
Duty Death	73	78	0.0685	0.0001	**Fail**	Pass	Pass
Non-Duty Disability	197	207	0.0508	0.0001	**Fail**	Pass	Pass
Duty Disability	169	184	0.0888	0.0002	**Fail**	Pass	Pass
Return of Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Subtotal	$ 13,608	$ 13,794	0.0137	0.0021	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 13,608**	**$ 13,794**	**0.0137**	**0.0021**	Pass	N/A	Pass
Count	53	53	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 16,314	$ 16,909	0.0365	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 72,276	$ 73,713	0.0199	0.0159	Pass	**Fail**	Pass
Terminated Vesteds	1,621	1,632	0.0068	0.0001	Pass	Pass	Pass
DROPs	3,014	3,051	0.0123	0.0004	Pass	Pass	Pass
Total Inactive	**$ 76,911**	**$ 78,396**	**0.0193**	**0.0164**	**Pass**	N/A	**Pass**
Total	**$ 90,519**	**$ 92,190**	**0.0185**	**0.0185**	Pass	N/A	Pass

Gabriel Roeder Smith & Company

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	$ 1,884,341	$ 1,861,243	(0.0123)	(0.0006)	Pass	Pass	Pass
Retirement	19,120,575	19,481,881	0.0189	0.0098	Pass	**Fail**	Pass
Non-Duty Death	372,744	460,204	0.2346	0.0024	**Fail**	Pass	Pass
Duty Death	202,197	243,205	0.2028	0.0011	**Fail**	Pass	Pass
Non-Duty Disability	544,153	572,227	0.0516	0.0008	**Fail**	Pass	Pass
Duty Disability	447,365	477,169	0.0666	0.0008	**Fail**	Pass	Pass
Return of Contributions	35	50	0.4286	0.0000	**Fail**	Pass	Pass
Subtotal	$ 22,571,410	$ 23,095,979	0.0232	0.0142	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 22,571,410**	**$ 23,095,979**	**0.0232**	**0.0142**	**Pass**	N/A	**Pass**
Count	64,734	64,734	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 43,738,584	$ 44,657,597	0.0210	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 10,660,605	$ 10,794,356	0.0125	0.0036	Pass	Pass	Pass
Terminated Vesteds	598,110	602,013	0.0065	0.0001	Pass	Pass	Pass
DROPs	3,043,731	3,083,883	0.0132	0.0011	Pass	Pass	Pass
Total Inactive	**$ 14,302,446**	**$ 14,480,252**	**0.0124**	**0.0048**	**Pass**	N/A	**Pass**
Total	**$ 36,873,856**	**$ 37,576,231**	**0.0190**	**0.0190**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

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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	$ 225,092	$ 222,102	(0.0133)	(0.0007)	Pass	Pass	Pass
Retirement	1,923,264	1,934,228	0.0057	0.0026	Pass	Pass	Pass
Non-Duty Death	30,919	32,178	0.0407	0.0003	Pass	Pass	Pass
Duty Death	8,993	9,853	0.0956	0.0002	**Fail**	Pass	Pass
Non-Duty Disability	27,248	29,342	0.0768	0.0005	**Fail**	Pass	Pass
Duty Disability	4,150	4,565	0.1000	0.0001	**Fail**	Pass	Pass
Return of Contributions	22	25	0.1364	0.0000	**Fail**	Pass	Pass
Subtotal	$ 2,219,688	$ 2,232,293	0.0057	0.0030	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$2,219,688**	**$2,232,293**	**0.0057**	**0.0030**	**Pass**	N/A	**Pass**
Count	5,693	5,693	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 3,848,197	$ 4,019,438	0.0445	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 1,299,690	$ 1,318,137	0.0142	0.0044	Pass	Pass	Pass
Terminated Vesteds	143,826	144,739	0.0063	0.0002	Pass	Pass	Pass
DROPs	496,654	503,472	0.0137	0.0016	Pass	Pass	Pass
Total Inactive	**$1,940,170**	**$1,966,348**	**0.0135**	**0.0063**	**Pass**	N/A	**Pass**
Total	**$4,159,858**	**$4,198,641**	**0.0093**	**0.0093**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

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FLORIDA RETIREMENT SYSTEM **Regular (REG) +TRS+SCOERS + IFAS - - Future DROPs Retirement Rates**

($ 000)

			Liability Ratio		Liability Test: Individual 5%	Liability Test: PVFB 0.5%	Liability Test: Composite
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**			
Withdrawal / Early Retirement	$ 9,324,355	$ 9,166,397	(0.0169)	(0.0013)	Pass	Pass	Pass
Retirement	50,812,270	52,046,230	0.0243	0.0099	Pass	**Fail**	Pass
Non-Duty Death	959,074	954,297	(0.0050)	0.0000	Pass	Pass	Pass
Duty Death	325,032	352,994	0.0860	0.0002	**Fail**	Pass	Pass
Non-Duty Disability	1,357,363	1,458,703	0.0747	0.0008	**Fail**	Pass	Pass
Duty Disability	146,907	160,790	0.0945	0.0001	**Fail**	Pass	Pass
Return of Contributions	24	105	3.3750	0.0000	**Fail**	Pass	Pass
Subtotal	$ 62,925,025	$ 64,139,516	0.0193	0.0097	Pass	N/A	Pass
Less PVF Contributions	2,014	2,014	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 62,923,011**	**$ 64,137,502**	**0.0193**	**0.0097**	**Pass**	N/A	**Pass**
Count	484,042	484,042	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 176,430,225	$ 183,076,057	0.0377	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 46,943,126	$ 47,599,297	0.0140	0.0053	Pass	**Fail**	Pass
Terminated Vesteds	3,714,057	3,737,610	0.0063	0.0002	Pass	Pass	Pass
DROPs	11,034,495	11,177,032	0.0129	0.0011	Pass	Pass	Pass
Total Inactive	**$ 61,691,678**	**$ 62,513,939**	**0.0133**	**0.0066**	**Pass**	N/A	**Pass**
Total	**$124,614,689**	**$ 126,651,441**	**0.0163**	**0.0163**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM **Judicial (J) - - Future DROPs Retirement Rates**

($ 000)

			Liability Ratio		Liability Test: Individual 5%	Liability Test: PVFB 0.5%	Liability Test: Composite
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**			
Withdrawal / Early Retirement	$ 42,930	$ 42,022	(0.0212)	(0.0006)	Pass	Pass	Pass
Retirement	503,637	507,126	0.0069	0.0025	Pass	Pass	Pass
Non-Duty Death	18,442	22,138	0.2004	0.0026	**Fail**	Pass	Pass
Duty Death	3,768	3,618	(0.0398)	(0.0001)	Pass	Pass	Pass
Non-Duty Disability	11,258	11,693	0.0386	0.0003	Pass	Pass	Pass
Duty Disability	1,841	1,939	0.0532	0.0001	**Fail**	Pass	Pass
Return of Contributions	0	2	199.0000	0.0000	**Fail**	Pass	Pass
Subtotal	$ 581,876	$ 588,538	0.0114	0.0048	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 581,876**	**$ 588,538**	**0.0114**	**0.0048**	**Pass**	N/A	**Pass**
Count	739	739	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 986,600	$ 1,000,216	0.0138	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 549,547	$ 557,056	0.0137	0.0054	Pass	**Fail**	Pass
Terminated Vesteds	16,956	17,066	0.0065	0.0001	Pass	Pass	Pass
DROPs	253,318	256,860	0.0140	0.0025	Pass	Pass	Pass
Total Inactive	**$ 819,821**	**$ 830,982**	**0.0136**	**0.0080**	**Pass**	N/A	**Pass**
Total	**$1,401,697**	**$1,419,520**	**0.0127**	**0.0127**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM **Legislative - Attorney - Cabinet (ESO) - - Future DROPs Retirement Rates**

($ 000)

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 7,406	$ 7,199	(0.0280)	(0.0017)	Pass	Pass	Pass
Retirement	19,168	19,199	0.0016	0.0003	Pass	Pass	Pass
Non-Duty Death	781	935	0.1972	0.0013	**Fail**	Pass	Pass
Duty Death	181	183	0.0110	0.0000	Pass	Pass	Pass
Non-Duty Disability	455	481	0.0571	0.0002	**Fail**	Pass	Pass
Duty Disability	83	89	0.0723	0.0000	**Fail**	Pass	Pass
Return of Contributions	0	1	99.0000	0.0000	**Fail**	Pass	Pass
Subtotal	$ 28,074	$ 28,087	0.0005	0.0001	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 28,074**	**$ 28,087**	**0.0005**	**0.0001**	**Pass**	N/A	**Pass**
Count	117	117	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 44,879	$ 46,744	0.0416	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 60,349	$ 60,800	0.0075	0.0037	Pass	Pass	Pass
Terminated Vesteds	10,511	10,572	0.0058	0.0005	Pass	Pass	Pass
DROP Subtotal	22,707	23,026	0.0140	0.0026	Pass	Pass	Pass
Total Inactive	**$ 93,567**	**$ 94,398**	**0.0089**	**0.0068**	**Pass**	N/A	**Pass**
Total	**$ 121,641**	**$ 122,485**	**0.0069**	**0.0069**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM **Elected County Officers (ECO) - - Future DROPs Retirement Rates**

($ 000)

			Liability Ratio		Liability Test		
					Individual	PVFB	
Active PVFB	**Milliman**	**GRS**	**Individual**	**Total**	**5%**	**0.5%**	**Composite**
Withdrawal / Early Retirement	$ 32,034	$ 31,087	(0.0296)	(0.0014)	Pass	Pass	Pass
Retirement	169,202	169,880	0.0040	0.0010	Pass	Pass	Pass
Non-Duty Death	5,587	6,555	0.1733	0.0014	**Fail**	Pass	Pass
Duty Death	1,215	1,220	0.0041	0.0000	Pass	Pass	Pass
Non-Duty Disability	3,060	3,263	0.0663	0.0003	**Fail**	Pass	Pass
Duty Disability	518	569	0.0985	0.0001	**Fail**	Pass	Pass
Return of Contributions	0	2	199.0000	0.0000	**Fail**	Pass	Pass
Subtotal	$ 211,616	$ 212,576	0.0045	0.0014	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	**$ 211,616**	**$ 212,576**	**0.0045**	**0.0014**	**Pass**	N/A	**Pass**
Count	918	918	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	$ 338,525	$ 349,685	0.0330	N/A	Pass	N/A	Pass
Inactive PVFB							
Retirees	$ 368,382	$ 375,688	0.0198	0.0106	Pass	**Fail**	Pass
Terminated Vesteds	28,346	28,518	0.0061	0.0002	Pass	Pass	Pass
DROPs	83,154	84,267	0.0134	0.0016	Pass	Pass	Pass
Total Inactive	**$ 479,882**	**$ 488,473**	**0.0179**	**0.0124**	**Pass**	N/A	**Pass**
Total	**$ 691,498**	**$ 701,049**	**0.0138**	**0.0138**	**Pass**	N/A	**Pass**

Gabriel Roeder Smith & Company

Appendix B

RICK SCOTT
Governor

DEPARTMENT OF MANAGEMENT
SERVICES

JOHN P. MILES
Secretary

4050 Esplanade Way | Tallahassee, Florida 32399-0950 | Tel: 850.488.2786 | Fax: 850.922.6149

March 30, 2011

Ms. Kathy McGuire, Interim Director
Office of Program Policy Analysis and
Government Accountability
Claude Pepper Building Room 312
111 West Madison Street
Tallahassee, FL 32399-1450

Dear Ms. McGuire:

Pursuant to Section 11.51(5), Florida Statutes, this is our response to your report, ***Florida Retirement System Pension Plan Valuation Met Standards***. Our response corresponds with the order of the preliminary and tentative findings and recommendations contained in the draft report.

If further information is needed concerning our response, please contact Steve Rumph, Inspector General or John Davis, Audit Director, at 488-5285.

Sincerely,

John P. Miles
Secretary

Attachment

cc: David Faulkenberry, Deputy Secretary
Sarabeth Snuggs, Director of Retirement

Department of Management Services' Response To the OPPAGA's Preliminary and Tentative Report

Florida Retirement System Pension Plan Valuation Met Standards

Findings:

- The Pension Plan's 2010 valuation was conducted in accordance with standards, and its assumptions and methods are reasonable.
- In 2010, the Pension Plan's actuarial liabilities exceeded assets by $16.7 billion.

Recommendations:

Based on the review by Gabriel, Roeder, Smith & Company, we make the following recommendations.

- *We continue to recommend that the FRS actuarial report include disclosures of the normal costs and actuarial gains and losses fully reflecting the DROP, as well as the disclosure of the present value of future benefits fully reflecting the DROP. Inclusion of these disclosures would provide valuable information to the Legislature.*
- *We recommend that the FRS actuarial report disclose the 10-year history of payroll growth. Inclusion of this information would be beneficial in light of the statutory requirement limiting this assumption to actual 10-year payroll growth experience.*
- *We continue to recommend that the actuarial valuation provide prior year results along with side-by-side current year results as appropriate. This information would provide a ready comparison both in terms of changes in values and in terms of percentage changes in the Florida Retirement System's membership, assets, and benefits.*

Response:

We are pleased with the conclusion from Gabriel, Roeder, Smith & Company that the 2009 actuarial valuation was made in accordance with relevant state laws and rules and actuarial standards and that the assumptions and methods used in the 2010 valuation were reasonable.

Our responses to the recommendations are:

- The Legislature continues to study two more traditional funding methods for DROP but has not taken any action to make changes to the current method. The development of actuarial gains and losses, normal cost, and the present value of future benefits vary under these methodologies. To generate the recommended information will require additional funding to expand the annual valuation. The FRS Actuarial Assumptions Conference and the Legislature would need to make changes in order for us to make changes. Should they do so we will change our approach however until that happens we need to comply with the existing rule(s) and must non-concur with the recommendation.

- As required by section 216.136(10), Florida Statutes, actuarial assumptions are determined by the Actuarial Assumptions Conference. While the inclusion of the actual payroll growth for the period ending with the Annual Actuarial Valuation would provide a longer historical perspective the statute does not include, it. The Assumptions Conference authorizes any assumption changes 2-3 months before the valuation is completed.

  Also, it appears the recommendation fails to take into consideration the statutory requirement for the Unfunded Actuarial Liability (UAL) funding base to include payrolls of the Optional Retirement Programs (Investment Plan, State University System Optional Retirement Program, State Community College Optional Retirement Program, etc.). The Legislature recognizes the importance of funding the UAL and therefore requires, by statute, employers to contribute the UAL contribution rate based on the uniform contribution rate study to be paid on the compensation of all such optional program participants. This UAL funding approach results in the payroll growth assumption conforming to the requirement of section 112.64(5), Florida Statutes. Accordingly, the department non-concurs with the recommendation.

- The Department believes that the FRS Actuarial Report as of July 1, 2010 includes appropriate year-by-year comparisons throughout the document. For example, numerical and percentage changes are already provided for assets and liabilities in the Executive Summary. Membership change comparisons are provided on page I-8. Sections II and III contain comparative charts of the changes in assets and liabilities.

  If additional data comparisons are needed and in order to implement the recommendation, we ask that the specific data and tables needing more information be identified. This information is needed so that the department is able to respond to a specific recommendation. Accordingly, until such time as the additional data comparisons are identified, the department non-concurs with the recommendation.