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Program Review

Florida Retirement System Pension Plan Valuation Met Standards

Report No. 09-24 April 2009

*Office of Program Policy Analysis
and Government Accountability*

an office of the Florida Legislature



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Gary R. VanLandingham, Ph.D., OPPAGA Director



The Florida Legislature

OFFICE OF PROGRAM POLICY ANALYSIS AND GOVERNMENT ACCOUNTABILITY



Gary R. VanLandingham, Ph.D., Director

April 2009

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 this review are presented to you in this report. To complete the review, we contracted with Gabriel, Roeder, Smith & Company to serve as our actuarial consultant. K.F. Lee, 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,

A handwritten signature in black ink, appearing to read "Gary R. VanLandingham".

Gary R. VanLandingham
Director

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Summary

Florida Retirement System Pension Plan Valuation Met Standards

Our actuarial consultant, Gabriel, Roeder, Smith & Company, concluded that the 2008 valuation was conducted in accordance with relevant state laws and rules and actuarial standards. It further concluded that the assumptions and methods used in the 2008 valuation were generally reasonable. The 2008 actuarial valuation determined that the plan's assets exceed its liabilities, with a surplus of \$8.0 billion as of July 1, 2008. However, the pension plan experienced an actuarial loss of \$645 million, primarily due to actuarial losses from investments. The 2008 actuarial valuation also shows that the plan's funding status (as measured by the ratio of its assets to liabilities) has experienced a decline over the last eight fiscal years (from 118% in Fiscal Year 1999-2000 to 107% in Fiscal Year 2007-08). In addition, because of the downturn in the global economy, State Board of Administration officials do not anticipate these surpluses to carry forward into the coming fiscal years.

Our consultant also continued to make several noteworthy observations and recommendations. For example, our consultant noted that the 2008 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). As a result, our consultant continues to recommend that future valuations include such disclosures that fully reflect the effect of expected DROP participation (page 30).

Additionally, our consultant continues to recommend that the valuation be improved by providing prior year results in a side-by-side comparison with current year results as appropriate. This would provide a ready comparison of changes in values and percentage changes in the Florida Retirement System's membership, assets, and benefits, as outlined in the *Florida Administrative Code* (pages 31 to 34).¹

Gabriel, Roeder, Smith & Company's report on the 2008 actuarial valuation is presented in its entirety in Appendix A, beginning on page 9. The Secretary of the Department of Management Services provided a written response to our preliminary report, reprinted at Appendix B, page 55.

¹ Rule 60T 1.003, *Florida Administrative Code*.

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 2008 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.² 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.

OPPAGA's review objectives were to determine whether the Department of Management Services' consulting actuary conducted the 2008 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.

² 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, with the results reported to the Legislature by December 31 prior to the next legislative session.

Actuarial valuations are made for several reasons:

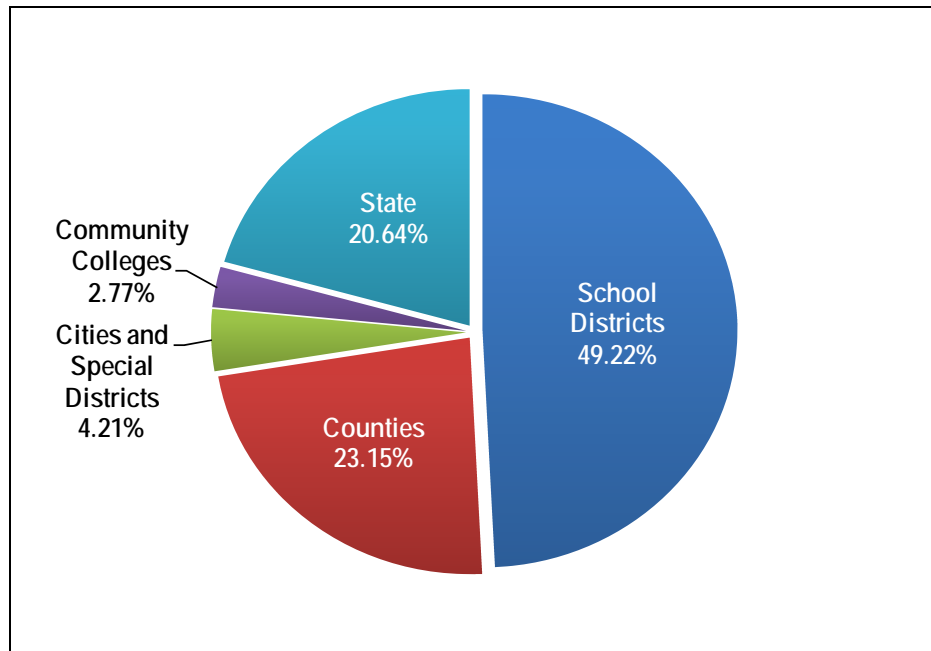
- to determine the contribution rates needed to cover the plan's normal costs (the percentage of salary needed to be contributed each year to cover the cost of future benefits owed system members);
- to determine the contribution rates needed to amortize any unfunded actuarial liability (the amount of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

Florida Retirement System members may join one of two retirement benefit options—the pension plan or the investment plan. The **FRS pension plan** is a defined benefit plan, meaning that the employer invests employer contributions to employees' retirement benefits. The employer guarantees a certain level of benefit payment and bears the risk that investment returns will not support that level of benefits. Participants' retirement benefits are based upon a formula taking into account factors such as their salary levels, years of service, compensation, and FRS membership class. The **FRS investment plan**, or Public Employee Optional Retirement Program, is a defined contribution plan. Investment plan participants are guaranteed a certain level of contributions from their employers and the participants select how these funds will be invested from a list of authorized investment accounts. Participants bear the risk of poor investment returns, but after meeting certain requirements, participants can take their retirement accounts with them if they no longer work with an employer participating in the FRS.

The FRS pension plan provides benefits to state employees and employees of local school districts, counties, certain cities, community colleges, and state universities. As shown in Exhibit 1, in Fiscal Year 2007-08 state employees constituted only 20.6% of plan members, while school district employees made up nearly half (49.2%) of plan participants.³ The remaining plan members were county, community college, city, and special district employees.

³ The Fiscal Year 2007-08, FRS annual report contains the most recent data available on pension plan membership. This report combines data on State University System employees with data for state employees.

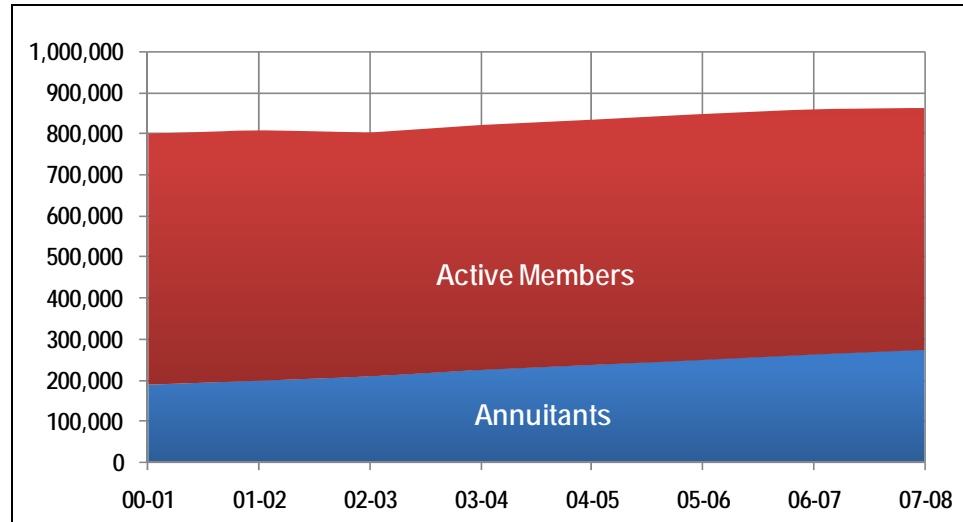
Exhibit 1
State Employees Comprise Only 21% of Florida Retirement System
Pension Plan Membership



Source: The Florida Retirement System Annual Report, July 1, 2007 – June 30, 2008.

The plan has experienced significant growth overall in the number of active members and annuitants (retirees or their beneficiaries receiving retirement payments). Specifically, between Fiscal Years 1980-81 and 2007-08, the number of active system members increased from 393,894 to 589,922 (49.77%). During this same period, the number of system annuitants increased from 59,533 to 273,429 (359.29%). Exhibit 2 shows the growth in active members and annuitants since 2000-01.

Exhibit 2
The Overall Number of FRS Members and Annuitants Has Increased Since Fiscal Year 2000-011



¹ Data presented in this exhibit excludes (1) FRS pension plan members who are in the Deferred Retirement Option Program (DROP) and (2) terminated vested members (persons who are vested and are no longer working for a government entity participating in the system, but have not begun to receive retirement benefits). The 2008 actuarial valuation indicates that the FRS pension plan has 31,253 DROP members and 87,722 terminated vested members as of July 1, 2008.

Source: Division of Retirement documents and the Florida Retirement System Actuarial Valuation as of July 1, 2008.

The Department of Management Services’ Division of Retirement administers the Florida Retirement System pension plan. Pension benefits and all division operating expenses are paid from revenues deposited in the Florida Retirement System Trust Fund. For Fiscal Year 2008-09, the Legislature provided the division spending authority of \$32.9 million.⁴

The State Board of Administration invests FRS pension plan assets. As of June 30, 2008, the market value of pension plan assets was \$126.9 billion. During Fiscal Year 2007-08, the Florida Retirement System paid \$5.2 billion in pension payments to retired, disabled, or beneficiary members.

The department contracted with Milliman Consultants and Actuaries to conduct the plan’s 2008 actuarial valuation.

⁴ The Division of Retirement’s operating budget includes \$14.2 million in general revenue to pay benefits for some small, closed retirement systems.

Findings

The pension plan's 2008 valuation was conducted in accordance with standards, and its assumptions and methods are reasonable

Our consulting actuary, Gabriel, Roeder, Smith & Company, concluded that the assumptions and methods used in the 2008 valuation were reasonable and generally complied with relevant state laws and rules and actuarial standards. However, our consulting actuary continued to note that the valuation's treatment of the Deferred Retirement Option Program (DRO) is nontraditional and could conflict with government accounting standards and generally accepted actuarial standards of practice. Specifically, the consulting actuary reported that two methods were used to treat DRO. The DMS actuary uses one method to determine the effect of DRO on the actuarial valuation and for measurement of the system's surplus, and uses a second method to determine the required contribution for each employee class.

Our consulting actuary concluded that the method used to determine the effect on the actuarial valuation did not reflect the probability of future DRO participation by active members. A method that factors in the future DRO participation by active members would have resulted in a \$1.4 billion reduction in the reported July 1, 2008, surplus, from \$8 billion to \$6.6 billion. The valuation initially calculated the surplus at \$8.2 billion. However, the surplus was adjusted to \$8 billion to account for the contingent liability due to FRS investment plan members' ability to exercise a second election to go back into the FRS pension plan.⁵

The Gabriel, Roeder, Smith & Company report on the 2008 actuarial valuation is presented in its entirety in Appendix A.

⁵ As provided by Ch. 2001-235, *Laws of Florida*, the actuarial gain from members electing to join the investment plan shall be amortized within 30 years as a separate unfunded actuarial base independent of the rate stabilization mechanism defined in s. 121.031(3)(f), *F.S.* For the first 25 years, no direct amortization payment is to be calculated for this base. During this 25-year period, this separate base is to be used to offset the impact of employees exercising their ability to rejoin the pension plan.

The pension plan maintained fully funded status in 2008

Actuarial valuations provide a means to assess whether a pension plan is making progress in improving its funding status. One indicator of a plan's funding status is the sufficiency of its assets in covering benefit liabilities.

In Fiscal Year 2007-08, the FRS pension plan maintained its fully funded status, with assets that exceeded liabilities.⁶ As shown in Exhibit 3, the plan's ratio of assets to liabilities significantly increased from Fiscal Year 1982-83 to 2007-08 (from 50% to 107%). This improvement was primarily due to significantly greater-than-expected investment returns, resulting from the exceptional performance of the stock market during the 1980s and 1990s, with less-than-expected member salary increases.

Although the pension plan is fully funded, its funding status has experienced a decline over the last eight fiscal years. This decline is attributable in part to the 2000 Legislature's implementation of the rate stabilization mechanism.⁷ The rate stabilization mechanism was designed to recover a portion of the surplus through reduced employer contributions while minimizing the risk of future increases in contribution rates. The plan's ratio of assets to liabilities declined from 118% in Fiscal Year 2000-01 to 107% in Fiscal Year 2007-08. In addition, because of the downturn in the global economy, State Board of Administration officials do not anticipate these surpluses to carry forward into the coming fiscal years.

In Fiscal Year 2007-08, the pension plan experienced an actuarial loss of \$645 million.⁸ The actuarial loss was attributable primarily to greater-than-expected loss from investment earnings, which were due to factors such as a decrease in contributions received, payment of benefits and expenses, and investment experience. During the same period, actuarial liabilities increased by \$5.17 billion, compared to the prior year's increase of \$7.84 billion. The reduced level of actuarial liabilities was due to mitigating factors such as less-than-expected salary increases, active retirements, and healthy retirees and beneficiaries.

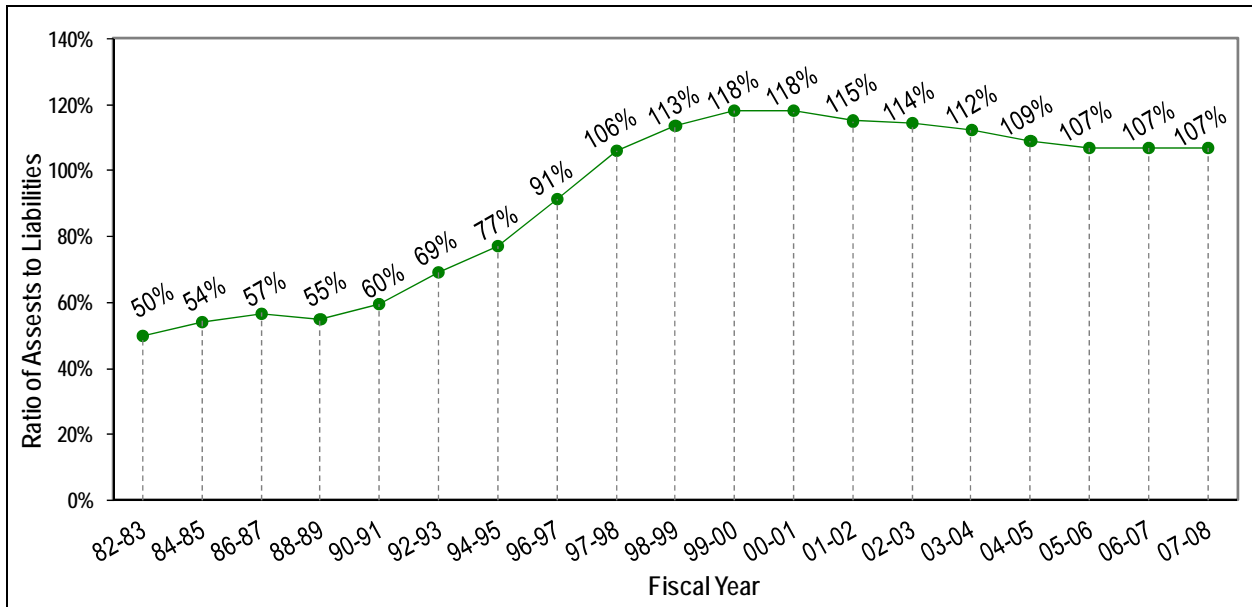
⁶ The 2008 valuation initially produced an actuarial surplus of \$8.2 billion. The surplus represents the difference between the actuarial value of assets (\$130.7 billion) and the actuarial accrued liability (\$122.5 billion). The actuarial value of assets is based on a five-year averaging methodology that is designed to attenuate fluctuations in asset values. The actuarial accrued liability represents the difference between the present value of future benefits (\$149.8 billion) and the present value of future employer contributions (\$27.3 billion). The present value of future benefits incorporates projected pension plan benefit payments and associated expenses. The present value of future employer contributions is based on normal costs, which are the percentage of salary that if paid from the year of entry to the year of retirement would fully fund a member's projected benefits at retirement.

⁷ As specified in s. 121.031(3)(f), *F.S.*

⁸ Assets incurred an actuarial loss of \$951 million while liabilities incurred an actuarial gain of \$306 million, resulting in an overall actuarial loss of \$645 million.

In addition, the SBA commissions an annual study to assess the likelihood that different investment strategies (i.e., the percentage of funds invested in stocks, bonds, and other assets) will earn rates of return sufficient to pay pension plan obligations over a 15-year period under various economic and investment performance scenarios. The most recent annual study released in March 2009 projects that, because of poor investment returns related to the economic downturn, the pension plan's liabilities will exceed assets by \$8.7 billion, resulting in a funding status of 93% for 2009.

Exhibit 3
Pension Plan Funding Status Has Improved Over Time,
But There Has Been a Downward Trend in Recent Years



Source: Division of Retirement documents and the Florida Retirement System Actuarial Valuation as of July 1, 2008.

Recommendations

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

- We recommend inclusion in the FRS actuarial report 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 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.

Appendix A



ACTUARIAL REVIEW

OF THE

July 1, 2008 Actuarial Valuation

of the

Florida Retirement System

FOR THE

OFFICE OF PROGRAM POLICY ANALYSIS

AND GOVERNMENT ACCOUNTABILITY

Submitted by:

GRS

Gabriel Roeder Smith & Company

February 11, 2009

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
FLORIDA RETIREMENT SYSTEM

Gabriel Roeder Smith & Company

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
FLORIDA RETIREMENT SYSTEM

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February 11, 2009

Ms. Kara Collins-Gomez
Staff Director
Government Operations Policy Area
Office of Program Policy Analysis
and Government Accountability
State of Florida
111 W. Madison St., Suite 312
Tallahassee, Florida 32399-1475

Re: FRS Actuarial Review

Dear Kara:

As requested, we have completed our actuarial review of the July 1, 2008 Actuarial Valuation Report of the Florida Retirement System (FRS) prepared by Milliman.

Based upon this actuarial review, we find that the actuarial assumptions and methods appropriately develop actuarial values of the System. We have also replicated key financial results of the July 1, 2008 Actuarial Valuation and there are 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. We have identified a few areas where consideration of refinement may be warranted.
2. The Department's actuaries for the most part use generally accepted actuarial cost methods, bases for assumptions and reporting standards. We have similarly 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.
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 find information 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.

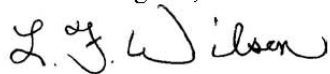
Ms. Kara Collins-Gomez
February 11, 2009
Page Two

6. We have found other aspects of the Department's actuaries' report where further disclosure and further consideration may be warranted. Subsequent events including the deterioration of the capital markets since the date of the actuarial Valuation Report (July 1, 2008) may be expected to negatively impact the funded status of FRS.

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 question concerning the above, please do not hesitate to contact us.

Sincerest regards,



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



Jennifer M. Borregard
Senior Analyst

Enclosure

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
FLORIDA RETIREMENT SYSTEM

Introduction

Gabriel Roeder Smith & Company

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
FLORIDA RETIREMENT SYSTEM

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 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, 2008 Actuarial Valuation Report and includes a replication of the July 1, 2008 Actuarial Valuation.

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.

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
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Executive Summary

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
FLORIDA RETIREMENT SYSTEM

II. Executive Summary

We have reviewed the July 1, 2008 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, 2008 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, 2008 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 application of the Rate Stabilization Mechanism (RSM) and treatment of the Deferred Retirement Option Program (DROP) appear to be somewhat nontraditional. Application of the RSM tends to be problematic in combination with the DROP liability treatment.
2. **Use of generally accepted actuarial cost methods, bases for assumptions and reporting standards:** Generally, the Actuarial Valuation meets these requirements. The use of the RSM and the treatment of the Deferred Retirement Option Program (DROP) may 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. We continue to find the actuarial assumptions internally consistent including consistent recognition of anticipated inflation in the economic assumptions. We understand the actuarial assumptions to be utilized in future actuarial valuation reports are scheduled for an update reflecting plan experience through June 30, 2008.
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, 2008 was \$0.645 billion based upon the actuarial assumptions used for funding in the July 1, 2007 Actuarial Valuation - \$0.950 billion loss on investments offset by \$0.305 billion gain on liabilities. For the previous year ended June 30, 2007, there was a reported actuarial gain

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
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of \$0.026 billion. The reported actuarial gains and losses are impacted by the somewhat nontraditional treatment of the DROP.

The actuarial value of assets as of June 30, 2008 exceeds the market value of assets by \$3.802 billion. These deferred investment losses will need to be recognized over the next four years. As of June 30, 2007 the market value of assets exceeded the actuarial value of assets by \$11.121 billion – a \$14.923 billion swing in one year.

As a subsequent event, the actuarial valuation report shows the market value of assets reported decreased from \$126.9 billion as of June 30, 2008 to \$114.5 billion as of September 30, 2008. We believe System assets may have continued to experience investment losses to date as have almost all retirement plan funds.

Additional disclosures and refinement may be warranted.

5. **Disclosure of sufficient information that another actuary, unfamiliar with the situation, could appraise the findings and arise at similar results:** The actuarial valuation provides significant information. FRS is complicated and the methods employed for certain benefits (DROP), the allocation of contribution requirement by Class and the use of the Rate Stabilization Mechanism are somewhat non-traditional. Additional side-by-side comparison of current and prior year results would add value.
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.

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
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Analysis

and

Recommendations

Gabriel Roeder Smith & Company

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
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III. Analysis and Recommendations

The following are detailed analysis and recommendations based upon our examination and review of the work of the Department of Management Services' actuaries as evidenced by the July 1, 2008 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 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. In addition, we are uncertain as to the proper application of Florida Statutes dealing with the Rate Stabilization Method – how should the liability for expected future DROPs be measured for purposes of determining the surplus? The nontraditional treatment of the DROP appears to have a significant impact on the size of the reported surplus (\$8.2 billion – no future DROPs vs. \$6.6 billion expected future DROPs).

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.

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
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There are a couple of areas in which the application of the Entry Age Normal Method in the FRS valuation is non-traditional. **First**, the use of the surplus (excess of actuarial value of assets over actuarial accrued liabilities) is governed by Florida Statute.

Specifically, F.S., 121.031(3)(f) requires application of the Rate Stabilization Mechanism (RSM) for determining the amount of surplus to be recognized in any given year as follows:

- f) *The actuarial model used to determine the adequate level of funding for the Florida Retirement System shall include a specific rate stabilization mechanism, as prescribed herein. It is the intent of the Legislature to maintain as a reserve a specific portion of any actuarial surplus, and to use such reserve for the purpose of offsetting future unfunded liabilities caused by experience losses, thereby minimizing the risk of future increases in contribution rates. It is further the intent of the Legislature that the use of any excess above the reserve to offset retirement system normal costs shall be in a manner that will allow system employers to plan appropriately for resulting cost reductions and subsequent cost increases. The rate stabilization mechanism shall operate as follows:*
- 1. The actuarial surplus shall be the value of actuarial assets over actuarial liabilities, as is determined on the preceding June 30 or as may be estimated on the preceding December 31.*
 - 2. The full amount of any experience loss shall be offset, to the extent possible, by any actuarial surplus.*
 - 3. If the actuarial surplus exceeds 5 percent of actuarial liabilities, one-half of the excess may be used to offset total retirement system costs. In addition, if the actuarial surplus exceeds 10 percent of actuarial liabilities, an additional one-fourth of the excess above 10 percent may be used to offset total retirement system costs. In addition, if the actuarial surplus exceeds 15 percent of actuarial liabilities, an additional one-fourth of the excess above 15 percent may be used to offset total retirement system costs.*
 - 4. Any surplus amounts available to offset total retirement system costs pursuant to subparagraph 3. should be amortized each year over a 10-year rolling period on a level-dollar basis.*

We understand the RSM, enacted into Florida law in 2000, was the result of an involved lengthy study involving members of the Florida Legislature, FRS employers, legislative and executive branch policy staff, professionals from the Florida State Board of Administration (SBA) and the Division of Retirement, two independent actuarial firms and SBA Trustees. The group recommended that the Legislature consider a method to stabilize contribution rates and ease the burden of contribution volatility on FRS participating employers.

In fact, the Legislature included their philosophy in F.S., section 121.031(3)(f) as follows *It is the intent of the Legislature to maintain as a reserve a specific portion of any actuarial surplus, and to use such reserve for the purpose of offsetting future unfunded liabilities caused by experience losses, thereby minimizing the risk of future increases in contribution rates. It is*

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
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further the intent of the Legislature that the use of any excess above the reserve to offset retirement system normal costs shall be in a manner that will allow system employers to plan appropriately for resulting cost reductions and subsequent cost increases.

Further, we understand the reported surplus (excess of the actuarial value of assets over the accrued actuarial liability) has arisen primarily due to favorable historic and recent investment returns and not from direct employer contributions.

In fact, as per the statute, a portion of the surplus has been used to stabilize contribution rates and fund System benefits.

The Actuarial Standards Board (ASB) promulgates standards of practice for actuaries. *Actuarial Standard of Practice (ASOP) No. 4 – Measuring Pension Obligations* addresses amortizations.

Paragraph 5.2.7 *Amortization—Factors Considered*— reads as follows:

Amortization may be required for such things as initial or unfunded actuarial liabilities, actuarial gains and losses and changes in actuarial liabilities due to plan amendments or changes in actuarial assumptions. The choice of an amortization period or range of periods should reflect:

- a. Any known limitations in the continuing ability of the plan sponsor to fund the plan. For example, consideration should be given to the probable future careers of the firm's principals for the plan of a small professional corporation, or the probable future lifetime of the plan sponsor;*
- b. The period over which the sponsor is benefited by the plan provision giving rise to the actuarial present value being amortized;*
- c. The existing relationship between assets and actuarial liabilities;*
- d. Progress towards meeting cash flow needs or a desired funding goal; and*
- e. Permissible smoothing of costs or contributions.*

The pattern of amortization during each selected period should be rational and systematic, such as a level annual dollar amount or a level percentage of participants' payroll.

The Government Accounting Standards Board (GASB) promulgates accounting standards for public entities. GASB Statements 25 and 27 generally set out expense and disclosure requirements for retirement systems.

Under GASB standards, expense should include provisions for amortizing the total unfunded actuarial liability (UAL), whether the UAL is positive or negative. Consequently, a negative unfunded accrued liability (surplus) is required to be amortized (See Guide to Implementation of GASB Statements 25, 26 and 27 on Pension Reporting and Disclosure by State

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and Local Government Plans and Employers - Question 40) and GASB Statement 27 (Footnote 10).

In general, the maximum amortization period is 30 years for fiscal year ended June 30, 2008 (See Guide to Implementation of GASB Statements 25, 26 and 27 on Pension Reporting and Disclosure by State and Local Government Plans and Employers - Question 41) and GASB Statement 27 (Paragraph 10.f.1.).

Paragraph 148 of GASB Statement 25 reads *The Board also believes that, when components of the total unfunded actuarial liability are separately amortized, gains and losses of a similar type ... should be amortized over similar periods; that is it would not be appropriate to recognize all gains immediately or over very short periods and spread all losses over longer periods. The Board recognizes that a required minimum period may not always be appropriate. For example, in some circumstances, the immediate recognition of a gain to offset a loss may help to reduce volatility in the ARC.* Note that paragraph 148 is included in the *Basis for Conclusions* section rather than in the formal statement section. Consequently, it may represent GASB's preference, but not a formal requirement.

We are not aware of any additional GASB pronouncements that deal definitively with the amortization of surplus; however, we understand GASB has a consistent and clear preference for treating overfunded and underfunded liabilities in the same manner. Consequently, we believe it is likely that, if asked, GASB would reply that a maximum equivalent single amortization period of 30 years would indeed be applicable to the FRS overfunded situation, and that the amortization of the unfunded accrued liability under the RSM is not presented and calculated in accordance with amortization periods allowed by GASB. If FRS wishes a more definitive determination of GASB's position on the maximum amortization period for surplus, we suggest that GASB be contacted directly.

The July 1, 2008 actuarial valuation report includes conforming GASB reporting. However, there is no guarantee that the RSM will produce compliant GASB contribution requirements in any year.

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

As stated on page I-12 of the July 1, 2008 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 less reflected surplus recognized through the rate stabilization method (RSM) (See Table IV - 8 of the Report).

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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 - 8 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 Statement 27 (See Tables IV - 3 through 7 of the Report).

1. Tables IV – 3 through 7 of the July 1, 2008 Actuarial Valuation Report state that ... *DROP <contribution> rates are special charges to cover the assumed cost of DROP participant; 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 that the measurement of surplus for purposes of the RSM is based upon the actuarial accrued liability measured under Step 1. This currently overstates the amount of surplus 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).

The actuarial valuation shows that use of the actuarial accrued liability determined under the Step 2 approach would decrease the reported July 1, 2008 surplus by \$1.555 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), the use of the RSM is a somewhat nontraditional *actuarial cost method and the nontraditional treatment of DROPs understates plan liabilities.* Our discussion of certain

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aspects of the actuarial cost methods are included in paragraph A above.

A number of actuarial assumptions were updated and first implemented for the July 1, 2004 Actuarial Valuation based upon the Experience Study covering the five-year period ended June 30, 2003. We believe that the updated assumptions may generally better reflect prior experience and future expectations. The current actuarial assumptions remain substantially unchanged from those employed in the prior actuarial valuations.

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 proscribe 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 economic assumptions may be reasonable and appropriate; however, we have found no demonstration or rationale to support the changes made effective July 1, 2004. We note the inflation assumption (3.0%) may be at the lower end of the range of reasonable long term inflation assumptions.

While the economic assumptions may be reasonable, best practices would dictate documentation of the rationale for such changes.

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 proscribe the actuary to 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 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 common to use a select period that coincides with the vesting period (6 years vs. 10 years). Also, we are

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unaware of any analysis to determine experience relating to members electing immediate reduced benefits vs. deferring unreduced benefits to normal retirement date.

In addition, some of the rates were contrary to observed experience in the latest Experience Study. For example, the rates for the Special Risk Class 10+ years were reduced notwithstanding the fact that observed exits exceeded expectations based upon the prior rates.

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 one 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.

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 to reflect experience (higher than expected observed mortality - except for disabled males).

The following summarizes the inactive healthy and disabled experience for the Classes with most of the observed experience.

We continue to be surprised that assumed mortality rates for disabled members for each gender are selected from different published mortality studies. In fact, there was a minimal amount of observed disabled mortality experience during the Experience Study period.

In addition, the female healthy inactive mortality rates appear to overshoot the observed rates from the Experience Study and do not appear to leave margin for conservatism. We continue to be uncertain as to why the updated rates warrant the 115% increase over the published mortality rates. The updated rates are projected (generational as described below) which may offset some of this lack of conservatism shown above.

- 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.

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

The accounting expense and disclosure assumptions appear to have been derived using approximately a 4% increasing payroll assumption for purposes of amortization of the surplus. We believe this assumption should be disclosed in the Actuarial Valuation Report.

In addition, the 4% assumption should be based upon reasonable expectations. FRS experience for the most recent three (3) years disclosed on page E-1 as follows:

Fiscal Ended	Payroll Growth
June 30, 2006	4.72%
June 30, 2007	4.23%
June 30, 2008	2.00%

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.*

The net effect of the changes in demographic assumptions resulting from the Experience Study was to make the collective actuarial basis less conservative. This was born out by the reduction in the actuarial accrued liability sourced from the changes in actuarial assumptions shown in the July 1, 2004 Actuarial Valuation Report.

- D. *The Departments 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, 2008 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 \$0.645 billion** during fiscal year ended June 30, 2008. This amount is not explicitly shown in the Executive Summary. We believe this is a

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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.

We note that Chapter 60T-1, Florida Administrative Code establishes requirements for Actuarial Reports for Florida *local law* public employee retirement systems. F.A.C, Chapter 60T-1.001(2) provides **Scope and Purpose**... *The objectives of this chapter are to enhance and further clarify the intent of Part VII, Chapter 112, Florida Statutes, so that governmental retirement systems may be managed, administered, operated, and funded in such manner as to maximize the protection of public employee retirement benefits. Inherent in this intent is the recognition that the pension liabilities attributable to the benefits promised public employees be fairly, orderly, and equitably funded by the current, as well as future, taxpayers.*

F.A.C., Chapter 60T-1.003(4)(h) provides **Actuarial Reports**... *Disclosure, for each plan year, of the derivation of the current unfunded actuarial accrued liability from the amount established as of the immediately preceding valuation date. (Unfunded actuarial accrued liabilities are amortized by nonemployee contributions in excess of normal cost and interest requirements.) The disclosure shall, minimally, include the following:*

1. Total unfunded actuarial accrued liability for the immediately prior actuarial valuation date (state date)	\$
2. Plan sponsor normal cost for this plan year	\$
3. Interest accrued on 1. and 2.	\$
4. Plan sponsor contributions for this plan year (including amounts expected to be paid)	\$
5. Interest on 4.	\$
6. Changes due to a. + b. + c. + d.	
a. assumptions	\$
b. funding method	\$
c. plan amendments	\$
d. actuarial gain/loss	\$
7. Total current unfunded actuarial accrued liability	
1. + 2. + 3. - 4. - 5. + 6.	\$

If this information must be provided by all local law public retirement systems in Florida, it seems reasonable and appropriate for it to be included in the FRS Actuarial Valuation Report. We believe this information adds value for the reader and imposes a discipline on the Report preparer.

In addition, we believe it may be more appropriate to determine actuarial gains and losses fully recognizing the probability of future DROPs and traditional treatment of current DROPs. This is the Step 2 approach described above and the required approach for GASB reporting.

We believe the Step 1 approach may only be appropriate for contribution allocation.

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Liability actuarial (gains) / losses are reported by source on page I-6 of the Report. We note that the major source of actuarial (gain) / loss identified this year is a \$1.934 billion gain due to *Demographic / Other*. Last year there was an actuarial gain of \$0.550 sourced from *Demographic / Other*.

We also note a substantial loss of \$1.369 billion due to Inactive Data Clean-Up. During the previous two years, the major source of actuarial (gain) / loss identified were losses due to *inactive data clean-up* of \$1.172 billion and \$1.143 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.

- E. *The Departments 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 this year. 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 were requested and provided 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 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 again 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:*

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

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

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<i>such liability not amortized</i>	_____	_____
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 _____)

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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.*

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The July 1, 2008 actuarial value of assets method starts with the July 1, 2007 actuarial value of assets and determines an expected actuarial value of assets as of July 1, 2008 assuming the expected fund return (7.75% for fiscal 2008) recognizing non-investment cash flows. The July 1, 2008 actuarial value of assets is the July 1, 2008 expected actuarial value plus 20% of the excess (deficiency) of July 1, 2008 market value of assets over the July 1, 2008 expected value of assets.

We believe this actuarial value of assets method is an acceptable method under Treasury regulations and complies with Florida statute. 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.

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Replication of July 1, 2008

Actuarial Valuation Results

Gabriel Roeder Smith & Company

ACTUARIAL REVIEW - JULY 1, 2008 ACTUARIAL VALUATION OF THE
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IV. Replication of key financial results of the July 1, 2008 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 vesteds 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 return of contributions for active Senior Management (No Future DROP Retirement Rates) (SM) Class members is eleven (11). A GRS calculation of anything but eleven (11) would fail this 5.0% test. In fact, GRS calculated twelve (12), which is only off by one (1) but fails the percentage test (9%).

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 return of contributions for active Senior Management (No Future DROP Retirement Rates) (SM) Class members mentioned above clearly passes this test (less than 0.00% ratio) 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.

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GRAND TOTAL -- No Future DROPs Retirement Rates

(\$ 000)

	Milliman	GRS	Liability Ratio		Liability Test		
			Individual	Total	Individual	PVFB	Composite
			5%	0.5%			
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 14,881,048	\$ 14,548,445	(0.0224)	(0.0022)	Pass	Pass	Pass
Retirement	65,242,453	65,930,789	0.0106	0.0046	Pass	Pass	Pass
Non-Duty Death	1,424,496	1,437,983	0.0095	0.0001	Pass	Pass	Pass
Duty Death	541,680	624,524	0.1529	0.0006	Fail	Pass	Pass
Non-Duty Disability	2,739,156	2,904,151	0.0602	0.0011	Fail	Pass	Pass
Duty Disability	702,171	795,588	0.1330	0.0006	Fail	Pass	Pass
Return of Contributions	96	255	1.6532	0.0000	Fail	Pass	Pass
Subtotal	\$ 85,531,100	\$ 86,241,735	0.0083	0.0047	Pass	N/A	Pass
Less PVF Contributions	3,454	3,454	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 85,527,646	\$ 86,238,281	0.0083	0.0047	Pass	N/A	Pass
Count	589,922	589,922	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 231,180,684	\$ 237,387,270	0.0268	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 47,190,827	\$ 48,413,632	0.0259	0.0082	Pass	Fail	Pass
Terminated Vesteds	4,032,309	4,060,990	0.0071	0.0002	Pass	Pass	Pass
DROPs	13,086,864	13,282,172	0.0149	0.0013	Pass	Pass	Pass
Total Inactive	\$ 64,310,000	\$ 65,756,794	0.0225	0.0097	Pass	N/A	Pass
Total	\$ 149,837,646	\$ 151,995,075	0.0144	0.0144	Pass	N/A	Pass

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

(\$ 000)

	<u>Milliman</u>	<u>GRS</u>	<u>Liability Ratio</u>		<u>Liability Test</u>		
			<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>PVFB</u>	<u>Composite</u>
					<u>5%</u>	<u>0.5%</u>	
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 2,271	\$ 2,619	0.1532	0.0037	Fail	Pass	Pass
Retirement	13,668	13,607	(0.0045)	(0.0007)	Pass	Pass	Pass
Non-Duty Death	274	235	(0.1423)	(0.0004)	Fail	Pass	Pass
Duty Death	131	149	0.1374	0.0002	Fail	Pass	Pass
Non-Duty Disability	513	542	0.0565	0.0003	Fail	Pass	Pass
Duty Disability	288	329	0.1424	0.0004	Fail	Pass	Pass
Return of Contributions	<u>0</u>	<u>0</u>	0.0000	0.0000	Pass	Pass	Pass
Subtotal	\$ 17,145	\$ 17,481	0.0196	0.0036	Pass	N/A	Pass
Less PVF Contributions	<u>0</u>	<u>0</u>	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 17,145	\$ 17,481	0.0196	0.0036	Pass	N/A	Pass
Count	62	62	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 27,603	\$ 28,109	0.0183	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 69,278	\$ 70,947	0.0241	0.0179	Pass	Fail	Pass
Terminated Vesteds	1,687	1,700	0.0077	0.0001	Pass	Pass	Pass
DROPs	<u>5,168</u>	<u>5,226</u>	0.0112	0.0006	Pass	Pass	Pass
Total Inactive	\$ 76,133	\$ 77,873	0.0229	0.0187	Pass	N/A	Pass
Total	\$ 93,278	\$ 95,354	0.0223	0.0223	Pass	N/A	Pass

Gabriel Roe der Smith & Company

FLORIDA RETIREMENT SYSTEM

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

(\$ 000)

	<u>Milliman</u>	<u>GRS</u>	<u>Liability Ratio</u>		<u>Liability Test</u>		
			<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>PVFB</u>	<u>Composite</u>
			<u>5%</u>	<u>0.5%</u>			
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 2,305,000	\$ 2,271,800	(0.0144)	(0.0010)	Pass	Pass	Pass
Retirement	17,216,073	17,272,111	0.0033	0.0017	Pass	Pass	Pass
Non-Duty Death	346,175	401,561	0.1600	0.0017	Fail	Pass	Pass
Duty Death	170,105	222,041	0.3053	0.0016	Fail	Pass	Pass
Non-Duty Disability	731,160	772,318	0.0563	0.0013	Fail	Pass	Pass
Duty Disability	402,824	471,667	0.1709	0.0021	Fail	Pass	Pass
Return of Contributions	3	27	8.0000	0.0000	Fail	Pass	Pass
Subtotal	\$ 21,171,340	\$ 21,411,525	0.0113	0.0075	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 21,171,340	\$ 21,411,525	0.0113	0.0075	Pass	N/A	Pass
Count	65,129	65,129	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 41,823,290	\$ 42,490,203	0.0159	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 8,241,941	\$ 8,454,105	0.0257	0.0066	Pass	Fail	Pass
Terminated Vesteds	540,789	545,020	0.0078	0.0001	Pass	Pass	Pass
DROPs	2,143,173	2,174,183	0.0145	0.0010	Pass	Pass	Pass
Total Inactive	\$ 10,925,903	\$ 11,173,308	0.0226	0.0077	Pass	N/A	Pass
Total	\$ 32,097,243	\$ 32,584,833	0.0152	0.0152	Pass	N/A	Pass

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM

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

(\$ 000)

			<u>Liability Ratio</u>		<u>Liability Test</u>		
	<u>Milliman</u>	<u>GRS</u>	<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>PVFB</u>	
					<u>5%</u>	<u>0.5%</u>	<u>Composite</u>
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 306,941	\$ 301,746	(0.0169)	(0.0014)	Pass	Pass	Pass
Retirement	1,926,971	1,925,969	(0.0005)	(0.0003)	Pass	Pass	Pass
Non-Duty Death	44,702	47,031	0.0521	0.0006	Fail	Pass	Pass
Duty Death	12,875	14,023	0.0892	0.0003	Fail	Pass	Pass
Non-Duty Disability	42,752	45,095	0.0548	0.0006	Fail	Pass	Pass
Duty Disability	6,947	7,544	0.0859	0.0002	Fail	Pass	Pass
Return of Contributions	11	12	0.0909	0.0000	Fail	Pass	Pass
Subtotal	\$ 2,341,199	\$ 2,341,420	0.0001	0.0001	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 2,341,199	\$ 2,341,420	0.0001	0.0001	Pass	N/A	Pass
Count	5,937	5,937	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 4,546,362	\$ 4,699,131	0.0336	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 929,261	\$ 947,284	0.0194	0.0047	Pass	Pass	Pass
Terminated Vesteds	135,692	136,742	0.0077	0.0003	Pass	Pass	Pass
DROPs	429,713	436,213	0.0151	0.0017	Pass	Pass	Pass
Total Inactive	\$ 1,494,666	\$ 1,520,239	0.0171	0.0067	Pass	N/A	Pass
Total	\$ 3,835,865	\$ 3,861,659	0.0067	0.0067	Pass	N/A	Pass

Gabriel Roe der Smith & Company

FLORIDA RETIREMENT SYSTEM

Regular (REG) + TRS + SCOERS + IFAS -- No Future DROPs Retirement Rates

(\$ 000)

	Milliman	GRS	Liability Ratio		Liability Test		
			Individual	Total	Individual	PVFB	Composite
			5%	0.5%			
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 12,166,561	\$ 11,874,528	(0.0240)	(0.0026)	Pass	Pass	Pass
Retirement	45,350,787	45,978,406	0.0138	0.0056	Pass	Fail	Pass
Non-Duty Death	999,569	948,579	(0.0510)	(0.0005)	Fail	Pass	Pass
Duty Death	351,598	381,490	0.0850	0.0003	Fail	Pass	Pass
Non-Duty Disability	1,945,087	2,065,886	0.0621	0.0011	Fail	Pass	Pass
Duty Disability	288,013	311,690	0.0822	0.0002	Fail	Pass	Pass
Return of Contributions	82	208	1.5341	0.0000	Fail	Pass	Pass
Subtotal	\$ 61,101,697	\$ 61,560,787	0.0075	0.0041	Pass	N/A	Pass
Less PVF Contributions	3,454	3,454	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 61,098,243	\$ 61,557,333	0.0075	0.0041	Pass	N/A	Pass
Count	516,953	516,953	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$183,245,619	\$188,604,804	0.0292	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 37,122,787	\$ 38,099,616	0.0263	0.0087	Pass	Fail	Pass
Terminated Vesteds	3,304,169	3,327,175	0.0070	0.0002	Pass	Pass	Pass
DROPs	10,193,447	10,346,515	0.0150	0.0014	Pass	Pass	Pass
Total Inactive	\$ 50,620,403	\$ 51,773,306	0.0228	0.0103	Pass	N/A	Pass
Total	\$ 111,718,646	\$ 113,330,639	0.0144	0.0144	Pass	N/A	Pass

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM

Judicial (J) -- No Future DROPs Retirement Rates

(\$ 000)

	<u>Milliman</u>	<u>GRS</u>	<u>Liability Ratio</u>		<u>Liability Test</u>		
			<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>PVFB</u>	<u>Composite</u>
			<u>5%</u>	<u>0.5%</u>			
<u>Active PVFB</u>							
Withdrawal /Early Retirement	\$ 55,551	\$ 54,244	(0.0235)	(0.0010)	Pass	Pass	Pass
Retirement	544,764	550,154	0.0099	0.0040	Pass	Pass	Pass
Non-Duty Death	25,773	31,196	0.2104	0.0041	Fail	Pass	Pass
Duty Death	5,223	5,060	(0.0312)	(0.0001)	Pass	Pass	Pass
Non-Duty Disability	15,179	15,612	0.0285	0.0003	Pass	Pass	Pass
Duty Disability	3,179	3,350	0.0538	0.0001	Fail	Pass	Pass
Return of Contributions	0	4	399.0000	0.0000	Fail	Pass	Pass
Subtotal	\$ 649,669	\$ 659,620	0.0153	0.0075	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 649,669	\$ 659,620	0.0153	0.0075	Pass	N/A	Pass
Count	790	790	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 1,134,632	\$ 1,149,330	0.0130	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 468,236	\$ 474,337	0.0130	0.0046	Pass	Pass	Pass
Terminated Vesteds	17,269	17,401	0.0076	0.0001	Pass	Pass	Pass
DROPs	197,187	200,137	0.0150	0.0022	Pass	Pass	Pass
Total Inactive	\$ 682,692	\$ 691,875	0.0135	0.0069	Pass	N/A	Pass
Total	\$ 1,332,361	\$ 1,351,495	0.0144	0.0144	Pass	N/A	Pass

Gabriel Roe der Smith & Company

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FLORIDA RETIREMENT SYSTEM

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

(\$ 000)

	<u>Milliman</u>	<u>GRS</u>	<u>Liability Ratio</u>		<u>Liability Test</u>		
			<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>PVFB</u>	<u>Composite</u>
					<u>5%</u>	<u>0.5%</u>	
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 8,507	\$ 8,388	(0.0140)	(0.0011)	Pass	Pass	Pass
Retirement	19,199	19,102	(0.0051)	(0.0009)	Pass	Pass	Pass
Non-Duty Death	883	1,038	0.1755	0.0014	Fail	Pass	Pass
Duty Death	203	202	(0.0049)	0.0000	Pass	Pass	Pass
Non-Duty Disability	514	539	0.0486	0.0002	Pass	Pass	Pass
Duty Disability	110	119	0.0818	0.0001	Fail	Pass	Pass
Return of Contributions	0	1	99.0000	0.0000	Fail	Pass	Pass
Subtotal	\$ 29,416	\$ 29,389	(0.0009)	(0.0002)	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 29,416	\$ 29,389	(0.0009)	(0.0002)	Pass	N/A	Pass
Count	123	123	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 44,343	\$ 45,717	0.0310	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 50,991	\$ 52,322	0.0261	0.0118	Pass	Fail	Pass
Terminated Vesteds	7,786	7,845	0.0076	0.0005	Pass	Pass	Pass
DROPs	24,219	24,567	0.0144	0.0031	Pass	Pass	Pass
Total Inactive	\$ 82,996	\$ 84,734	0.0209	0.0155	Pass	N/A	Pass
Total	\$ 112,412	\$ 114,123	0.0152	0.0152	Pass	N/A	Pass

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM

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

(\$ 000)

	Milliman	GRS	Liability Ratio		Liability Test		
			Individual	Total	Individual	PVFB	Composite
			5%	0.5%			
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 36,217	\$ 35,120	(0.0303)	(0.0017)	Pass	Pass	Pass
Retirement	170,991	171,440	0.0026	0.0007	Pass	Pass	Pass
Non-Duty Death	7,120	8,343	0.1718	0.0019	Fail	Pass	Pass
Duty Death	1,545	1,559	0.0091	0.0000	Pass	Pass	Pass
Non-Duty Disability	3,951	4,159	0.0526	0.0003	Fail	Pass	Pass
Duty Disability	810	889	0.0975	0.0001	Fail	Pass	Pass
Return of Contributions	0	3	299.0000	0.0000	Fail	Pass	Pass
Subtotal	\$ 220,634	\$ 221,513	0.0040	0.0014	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 220,634	\$ 221,513	0.0040	0.0014	Pass	N/A	Pass
Count	928	928	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 358,835	\$ 369,977	0.0310	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 308,333	\$ 315,021	0.0217	0.0103	Pass	Fail	Pass
Terminated Vesteds	24,917	25,107	0.0076	0.0003	Pass	Pass	Pass
DROPs	93,957	95,331	0.0146	0.0021	Pass	Pass	Pass
Total Inactive	\$ 427,207	\$ 435,459	0.0193	0.0127	Pass	N/A	Pass
Total	\$ 647,841	\$ 656,972	0.0141	0.0141	Pass	N/A	Pass

Gabriel Roe der Smith & Company

FLORIDA RETIREMENT SYSTEM

GRANDTOTAL -- Future DROPs Retirement Rates

(\$ 000)

Liability Test

	Milliman	GRS	Liability Ratio		Individual	PVFB	Composite
			Individual	Total	5%	0.5%	
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 14,881,048	\$ 14,550,020	(0.0222)	(0.0022)	Pass	Pass	Pass
Retirement	66,731,940	67,438,234	0.0106	0.0047	Pass	Pass	Pass
Non-Duty Death	1,267,144	1,278,661	0.0091	0.0001	Pass	Pass	Pass
Duty Death	505,621	586,910	0.1608	0.0005	Fail	Pass	Pass
Non-Duty Disability	2,557,125	2,707,963	0.0590	0.0010	Fail	Pass	Pass
Duty Disability	654,393	735,735	0.1243	0.0005	Fail	Pass	Pass
Return of Contributions	96	245	1.5511	0.0000	Fail	Pass	Pass
Subtotal	\$ 86,597,367	\$ 87,297,768	0.0081	0.0046	Pass	N/A	Pass
Less PVF Contributions	3,384	3,384	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 86,593,983	\$ 87,294,384	0.0081	0.0046	Pass	N/A	Pass
Count	589,922	589,922	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 221,431,496	\$ 229,044,412	0.0344	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 47,190,827	\$ 48,413,632	0.0259	0.0081	Pass	Fail	Pass
Terminated Vesteds	4,032,309	4,060,990	0.0071	0.0002	Pass	Pass	Pass
DROPs	13,086,864	13,282,172	0.0149	0.0013	Pass	Pass	Pass
Total Inactive	\$ 64,310,000	\$ 65,756,794	0.0225	0.0096	Pass	N/A	Pass
Total	\$ 150,903,983	\$ 153,051,178	0.0142	0.0142	Pass	N/A	Pass

Gabriel Roeber Smith & Company

FLORIDA RETIREMENT SYSTEM

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

(\$ 000)

	Milliman	GRS	Liability Ratio		Liability Test		
			Individual	Total	Individual	PVFB	Composite
					5%	0.5%	
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 2,271	\$ 2,586	0.1387	0.0034	Fail	Pass	Pass
Retirement	13,853	13,979	0.0091	0.0013	Pass	Pass	Pass
Non-Duty Death	248	194	(0.2177)	(0.0006)	Fail	Pass	Pass
Duty Death	121	130	0.0744	0.0001	Fail	Pass	Pass
Non-Duty Disability	469	465	(0.0085)	0.0000	Pass	Pass	Pass
Duty Disability	265	288	0.0868	0.0002	Fail	Pass	Pass
Return of Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Subtotal	\$ 17,227	\$ 17,642	0.0241	0.0044	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 17,227	\$ 17,642	0.0241	0.0044	Pass	N/A	Pass
Count	62	62	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 25,927	\$ 25,328	(0.0231)	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 69,278	\$ 70,947	0.0241	0.0179	Pass	Fail	Pass
Terminated Vesteds	1,687	1,700	0.0077	0.0001	Pass	Pass	Pass
DROPs	5,168	5,226	0.0112	0.0006	Pass	Pass	Pass
Total Inactive	\$ 76,133	\$ 77,873	0.0229	0.0186	Pass	N/A	Pass
Total	\$ 93,360	\$ 95,515	0.0231	0.0231	Pass	N/A	Pass

Gabriel Roe der Smith & Company

FLORIDA RETIREMENT SYSTEM

Special Risk (SR) -- Future DROPs Retirement Rates

(\$ 000)

	<u>Milliman</u>	<u>GRS</u>	<u>Liability Ratio</u>		<u>Liability Test</u>		
			<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>PVFB</u>	<u>Composite</u>
			<u>5%</u>	<u>0.5%</u>			
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 2,305,000	\$ 2,273,423	(0.0137)	(0.0010)	Pass	Pass	Pass
Retirement	17,606,313	17,823,521	0.0123	0.0067	Pass	Fail	Pass
Non-Duty Death	317,158	350,078	0.1038	0.0010	Fail	Pass	Pass
Duty Death	160,779	203,958	0.2686	0.0013	Fail	Pass	Pass
Non-Duty Disability	676,836	692,601	0.0233	0.0005	Pass	Pass	Pass
Duty Disability	376,689	429,369	0.1399	0.0016	Fail	Pass	Pass
Return of Contributions	3	26	7.6667	0.0000	Fail	Pass	Pass
Subtotal	\$ 21,442,778	\$ 21,772,976	0.0154	0.0102	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 21,442,778	\$ 21,772,976	0.0154	0.0102	Pass	N/A	Pass
Count	65,129	65,129	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 40,318,166	\$ 40,441,890	0.0031	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 8,241,941	\$ 8,454,105	0.0257	0.0066	Pass	Fail	Pass
Terminated Vesteds	540,789	545,020	0.0078	0.0001	Pass	Pass	Pass
DROPs	2,143,173	2,174,183	0.0145	0.0010	Pass	Pass	Pass
Total Inactive	\$ 10,925,903	\$ 11,173,308	0.0226	0.0076	Pass	N/A	Pass
Total	\$ 32,368,681	\$ 32,946,284	0.0178	0.0178	Pass	N/A	Pass

Gabriel Roe der Smith & Company

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FLORIDA RETIREMENT SYSTEM

Senior Management (SM) - - Future DROPs Retirement Rates

(\$ 000)

	<u>Milliman</u>	<u>GRS</u>	<u>Liability Ratio</u>		<u>Liability Test</u>		
			<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>PVFB</u>	<u>Composite</u>
					<u>5%</u>	<u>0.5%</u>	
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 306,941	\$ 301,746	(0.0169)	(0.0013)	Pass	Pass	Pass
Retirement	1,962,126	1,961,483	(0.0003)	(0.0002)	Pass	Pass	Pass
Non-Duty Death	38,039	40,584	0.0669	0.0007	Fail	Pass	Pass
Duty Death	11,527	12,932	0.1219	0.0004	Fail	Pass	Pass
Non-Duty Disability	38,921	41,462	0.0653	0.0007	Fail	Pass	Pass
Duty Disability	6,191	6,885	0.1121	0.0002	Fail	Pass	Pass
Return of Contributions	11	12	0.0909	0.0000	Fail	Pass	Pass
Subtotal	\$ 2,363,756	\$ 2,365,104	0.0006	0.0003	Pass	N/A	Pass
Less PVF Contributions	<u>0</u>	<u>0</u>	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 2,363,756	\$ 2,365,104	0.0006	0.0003	Pass	N/A	Pass
Count	5,937	5,937	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 4,238,089	\$ 4,441,622	0.0480	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 929,261	\$ 947,284	0.0194	0.0047	Pass	Pass	Pass
Terminated Vesteds	135,692	136,742	0.0077	0.0003	Pass	Pass	Pass
DROPs	<u>429,713</u>	<u>436,213</u>	0.0151	0.0017	Pass	Pass	Pass
Total Inactive	\$ 1,494,666	\$ 1,520,239	0.0171	0.0066	Pass	N/A	Pass
Total	\$ 3,858,422	\$ 3,885,343	0.0070	0.0070	Pass	N/A	Pass

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM

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

(\$ 000)

	Milliman	GRS	Liability Ratio		Liability Test		
			Individual	Total	Individual	PVFB	Composite
			5%	0.5%			
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 12,166,561	\$ 11,874,528	(0.0240)	(0.0026)	Pass	Pass	Pass
Retirement	46,393,441	46,867,683	0.0102	0.0042	Pass	Pass	Pass
Non-Duty Death	880,499	851,868	(0.0325)	(0.0003)	Pass	Pass	Pass
Duty Death	326,678	363,624	0.1131	0.0003	Fail	Pass	Pass
Non-Duty Disability	1,822,101	1,954,385	0.0726	0.0012	Fail	Pass	Pass
Duty Disability	267,399	295,204	0.1040	0.0002	Fail	Pass	Pass
Return of Contributions	82	199	1.4268	0.0000	Fail	Pass	Pass
Subtotal	\$ 61,856,761	\$ 62,207,491	0.0057	0.0031	Pass	N/A	Pass
Less PVF Contributions	<u>3,384</u>	<u>3,384</u>	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 61,853,377	\$ 62,204,107	0.0057	0.0031	Pass	N/A	Pass
Count	516,953	516,953	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 175,379,985	\$ 182,663,942	0.0415	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 37,122,787	\$ 38,099,616	0.0263	0.0087	Pass	Fail	Pass
Terminated Vesteds	3,304,169	3,327,175	0.0070	0.0002	Pass	Pass	Pass
DROPs	<u>10,193,447</u>	<u>10,346,515</u>	0.0150	0.0014	Pass	Pass	Pass
Total Inactive	\$ 50,620,403	\$ 51,773,306	0.0228	0.0103	Pass	N/A	Pass
Total	\$ 112,473,780	\$ 113,977,413	0.0134	0.0134	Pass	N/A	Pass

Gabriel Roeder Smith & Company

FLORIDA RETIREMENT SYSTEM

Judicial (J) -- Future DROPs Retirement Rates

(\$ 000)

			<u>Liability Ratio</u>		<u>Liability Test</u>		
	<u>Milliman</u>	<u>GRS</u>	<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>PVFB</u>	
					<u>5%</u>	<u>0.5%</u>	<u>Composite</u>
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 55,551	\$ 54,244	(0.0235)	(0.0010)	Pass	Pass	Pass
Retirement	562,165	575,227	0.0232	0.0097	Pass	Fail	Pass
Non-Duty Death	23,721	27,479	0.1584	0.0028	Fail	Pass	Pass
Duty Death	4,866	4,629	(0.0487)	(0.0002)	Pass	Pass	Pass
Non-Duty Disability	14,511	14,627	0.0080	0.0001	Pass	Pass	Pass
Duty Disability	2,977	3,056	0.0265	0.0001	Pass	Pass	Pass
Return of Contributions	0	4	399.0000	0.0000	Fail	Pass	Pass
Subtotal	\$ 663,791	\$ 679,266	0.0233	0.0115	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 663,791	\$ 679,266	0.0233	0.0115	Pass	N/A	Pass
Count	790	790	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 1,082,620	\$ 1,078,609	(0.0037)	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 468,236	\$ 474,337	0.0130	0.0045	Pass	Pass	Pass
Terminated Vesteds	17,269	17,401	0.0076	0.0001	Pass	Pass	Pass
DROPs	197,187	200,137	0.0150	0.0022	Pass	Pass	Pass
Total Inactive	\$ 682,692	\$ 691,875	0.0135	0.0068	Pass	N/A	Pass
Total	\$ 1,346,483	\$ 1,371,141	0.0183	0.0183	Pass	N/A	Pass

Gabriel Roe der Smith & Company

FLORIDA RETIREMENT SYSTEM

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

(\$ 000)

			<u>Liability Ratio</u>		<u>Liability Test</u>		
	<u>Milliman</u>	<u>GRS</u>	<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>PVFB</u>	
					<u>5%</u>	<u>0.5%</u>	<u>Composite</u>
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 8,507	\$ 8,388	(0.0140)	(0.0011)	Pass	Pass	Pass
Retirement	19,551	19,586	0.0018	0.0003	Pass	Pass	Pass
Non-Duty Death	831	952	0.1456	0.0011	Fail	Pass	Pass
Duty Death	191	190	(0.0052)	0.0000	Pass	Pass	Pass
Non-Duty Disability	499	519	0.0401	0.0002	Pass	Pass	Pass
Duty Disability	105	112	0.0667	0.0001	Fail	Pass	Pass
Return of Contributions	0	1	99.0000	0.0000	Fail	Pass	Pass
Subtotal	\$ 29,684	\$ 29,748	0.0022	0.0006	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 29,684	\$ 29,748	0.0022	0.0006	Pass	N/A	Pass
Count	123	123	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 42,811	\$ 43,753	0.0220	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 50,991	\$ 52,322	0.0261	0.0118	Pass	Fail	Pass
Terminated Vesteds	7,786	7,845	0.0076	0.0005	Pass	Pass	Pass
DROP Subtotal	24,219	24,567	0.0144	0.0031	Pass	Pass	Pass
Total Inactive	\$ 82,996	\$ 84,734	0.0209	0.0154	Pass	N/A	Pass
Total	\$ 112,680	\$ 114,482	0.0160	0.0160	Pass	N/A	Pass

Gabriel Roe der Smith & Company

FLORIDA RETIREMENT SYSTEM

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

(\$ 000)

	Milliman	GRS	Liability Ratio		Liability Test		
			Individual	Total	Individual 5%	PVFB 0.5%	Composite
<u>Active PVFB</u>							
Withdrawal / Early Retirement	\$ 36,217	\$ 35,105	(0.0307)	(0.0017)	Pass	Pass	Pass
Retirement	174,491	176,755	0.0130	0.0035	Pass	Pass	Pass
Non-Duty Death	6,648	7,506	0.1291	0.0013	Fail	Pass	Pass
Duty Death	1,459	1,447	(0.0082)	0.0000	Pass	Pass	Pass
Non-Duty Disability	3,788	3,904	0.0306	0.0002	Pass	Pass	Pass
Duty Disability	767	821	0.0704	0.0001	Fail	Pass	Pass
Return of Contributions	0	3	299.0000	0.0000	Fail	Pass	Pass
Subtotal	\$ 223,370	\$ 225,541	0.0097	0.0033	Pass	N/A	Pass
Less PVF Contributions	0	0	0.0000	0.0000	Pass	Pass	Pass
Total Active PVFB	\$ 223,370	\$ 225,541	0.0097	0.0033	Pass	N/A	Pass
Count	928	928	0.0000	N/A	Pass	N/A	Pass
Active PVF Salary:	\$ 343,898	\$ 349,268	0.0156	N/A	Pass	N/A	Pass
<u>Inactive PVFB</u>							
Retirees	\$ 308,333	\$ 315,021	0.0217	0.0103	Pass	Fail	Pass
Terminated Vesteds	24,917	25,107	0.0076	0.0003	Pass	Pass	Pass
DROPs	93,957	95,331	0.0146	0.0021	Pass	Pass	Pass
Total Inactive	\$ 427,207	\$ 435,459	0.0193	0.0127	Pass	N/A	Pass
Total	\$ 650,577	\$ 661,000	0.0160	0.0160	Pass	N/A	Pass

Gabriel Roeder Smith & Company

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Appendix B



Office of Inspector General
Department of Management Services
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Governor Charlie Crist

Secretary Linda H. South

April 3, 2009

Mr. Gary R. VanLandingham, Director
Office of Program Policy Analysis and
Government Accountability
Claude Pepper Building Room 312
111 West Madison Street
Tallahassee, FL 32399-1450

Dear Mr. VanLandingham:

Pursuant to Section 11.51(5), Florida Statutes, attached is the Department of Management Services' response to your preliminary and tentative audit report, **Florida Retirement System Pension Plan Fully Funded and Valuation Met Standard**. The attached response corresponds with the order of your preliminary and tentative audit findings and recommendations.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'LH South', written in a cursive style.

Linda H. South
Secretary

Attachment

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

We serve those who serve Florida.

Mr. Gary R. VanLandingham
April 3, 2009
Attachment Page 1

Florida Department of Management Services
Response to OPPAGA's
Preliminary Findings and Recommendations

Finding:

The pension plan's 2008 valuation was conducted in accordance with standards, and its assumptions and methods are reasonable.

Recommendation:

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

- *We recommend inclusion in the FRS actuarial report 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 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 2008 actuarial valuation was made in accordance with relevant state laws, rules, and actuarial standards and that the assumptions and methods used in the 2008 valuation were reasonable.

Our responses to the recommendations are:

Mr. Gary R. VanLandingham
April 3, 2009
Attachment Page 2

- **Non-Concur:** The current funding of the Deferred Retirement Option Program (DROP) and the disclosure approach in the Florida Retirement System (FRS) actuarial valuation results from laws enacted by the Legislature and specific instructions from the FRS Actuarial Assumption Conference (Conference). The Conference consists of principals from the Governor's Office and staff designated by the Legislature. The Division of Retirement does not have a statutorily prescribed role in the Conference, but does typically attend to provide the Conference any requested support.

The Legislature requested and received a special actuarial study on March 23, 2007, about funding DROP in a more traditional manner. No action was taken to change DROP funding for the 2008-09 fiscal year and no change no change has been proposed in the 2009 Legislative Session. The Department of Management Services Contracted Actuary would certainly comply if the Conference recommends changing the DROP funding method and the Legislature agrees; or, if the Conference recommends expanding the valuation report to provide comparative DROP funding statements until a more traditional DROP funding method is authorized.

Expanding the valuation report to include this additional work would increase the annual cost of the valuation and would require funding by the Legislature. DMS and the DMS Contracted Actuary originally recommended, and continue to recommend, the adoption of a more traditional funding approach for DROP.

- **Non-Concur:** The Department believes that the FRS Actuarial Report as of July 1, 2008 includes appropriate year by year comparisons throughout the document. For example, on pages II-3 and II-7 a 2007 and 2008 comparison is presented. If additional data comparisons are needed, we ask that the specific data and tables be identified in order for the Department to be able to respond to a specific recommendation.