Government of the Virgin Islands Retirement System

Actuarial Valuation and Review as of October 1, 2011

SEGAL

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January 14, 2013

Board of Trustees
Government of the Virgin Islands Retirement System
GERS Complex
St. Thomas, Virgin Islands, 00802

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of October 1, 2011. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal year ending September 30, 2012 and later years and analyzes the preceding five years of experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census information and financial information on which our calculations were based was prepared by the staff of the Government Employees Retirement System (GERS) under the supervision of Mr. Austin L. Nibbs, CPA.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

The actuarial calculations were directed under our supervision. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

THE SEGAL COMPANY

By:

Leon F. (Rocky) Joyner, Jr. FCA, ASA, MAAA, EA
Vice President and Actuary

Howard Rog, FSA, MAAA, EA
Senior Vice President and Actuary

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

REPORTING INFORMATION

Purpose

This report has been prepared by The Segal Company to present a valuation of the Government of the Virgin Islands Retirement System as of October 1, 2011. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Board as of October 1, 2011;
- The characteristics of covered active members, and and beneficiaries as of October 1, 2011, provided by GERS;
- The assets of the Plan as of September 30, 2011, provided by GERS;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

1. This is the first valuation completed in five years. There was an overall loss during that period. This loss was mainly due to investment losses offset by gains from favorable demographic experience.
2. With this valuation, the net investment return assumption has been revised from 8% to 7.5% and the salary increase assumption has been revised from 5.5% to 4%.
3. There were inconsistencies in the data when compared to the prior valuation. The Retirement System needs to continue to improve the quality of the data being provided for valuation purposes. Segal is available to provide assistance to the Retirement System in this endeavor. For purposes of this valuation, we have made the following adjustments to the data in order to reflect the potential exposure of the Fund with regards to data issues:
   - There was a significant drop in the number of employees coded as Public Safety employees since the 2006 valuation. Active participants who were previously coded as Public Safety were assumed to remain as Public Safety employees.
   - Active participants who were previously vested and not on any 2011 data file were assumed to be eligible for future deferred vested benefits from the System.
   - Since no employee contribution information is provided for retirees, we assumed that the contributions would guarantee benefits for four years.
4. The total recommended contribution increased from $170.6 million for the year beginning October 1, 2006 to $212.3 million for the year beginning October 1, 2011. This increase is mainly due to actual contributions less than the recommended contributions and the investment losses incurred over the past five years. Projected contributions for the year beginning October 1, 2011 amount to $104.3 million, resulting in a shortfall of $108.0 million.
5. The Plan has a funded percentage of 45.7% as of October 1, 2011 as compared to 53.5% as of October 1, 2006. This decrease is also a result of actual contributions less than recommended and the investment losses incurred over the past five years.

6. As indicated in Section 2, Subsection B of this report, the total unrecognized investment loss as of September 30, 2011 is $174,655,232. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by recognition of investment gains derived from future experience. This implies that earning the assumed rate of investment return of 7.5% per year (net of expenses) on a market value basis will result in investment losses on the actuarial value of assets in the next few years. Therefore, if the actual market return is equal to the assumed 7.5% rate and all other actuarial assumptions are met, the contribution requirements would still increase in each of the next few years.

7. The actuarial valuation report as of October 1, 2011 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Unfavorable asset experience will increase the actuarial cost of the Plan, while favorable experience will decrease the actuarial cost of the Plan**. In addition, this report does not reflect the effect of the Economic Stability Act of 2011 and any plan changes adopted after the valuation date, except as noted below:**

   - It is our understanding that there was a 10% decline (about 1,000 actives) in the active population after September 30, 2011 due to the Economic Stability Act of 2011.
   - The Board approved suspending the plan's Cost of Living Adjustments (COLA), effective January 1, 2013.
   - After suspending the COLA, the funded percentage of 45.7% is expected to immediately increase by about 4%.
   - The plan is projected to be insolvent by the year ending September 30, 2023, based on all assumptions being exactly met, including the 7.5% investment return assumption and the above changes to the System
   - Segal is currently working with the Pension Board and the GERS Pension Reform Taskforce to develop funding and plan changes to assure the long-term viability of the System.

Summary of Key Valuation Results

	September 30			
	2011		2006	
	Amount	% of Pay	Amount	% of Pay
Contributions for fiscal year beginning October 1:				
Recommended	$212,341,701	52.63%	$170,552,085	43.22%
Expected contributions:				
Employer	70,607,948	17.50%	57,216,397	14.5%
Employee	33,697,352	8.35%	32,754,817	8.30%
Shortfall	$108,036,401	26.78%	$80,580,871	20.42%
Funding elements for plan year beginning October 1:				
Normal cost, including administrative expenses	$55,475,323		$53,933,991	
Market value of assets	1,274,271,359		1,477,477,550	
Actuarial value of assets	1,448,926,591		1,421,093,035	
Actuarial accrued liability	3,168,037,497		2,657,664,564	
Unfunded actuarial accrued liability	1,719,110,906		1,236,571,529	
GASB 25/27 for fiscal year beginning October 1:				
Annual required contributions (ARC)	$178,644,349		$137,797,268	
Actual employer contributions	N/A		60,778,382	
Percentage of ARC contributed	N/A		44.11%	
Funded ratio	45.74%		53.47%	
Covered payroll	$403,473,988		$394,595,844	
Demographic data for plan year beginning October 1:				
Number of retired members and beneficiaries	7,592		7,282	
Number of active members	10,376		10,739	
Projected average pay roll	$38,885		$36,744	

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, and retired members and beneficiaries.This section presents a summary of significant statistical data on these member groups.

The significant decline in the ratio of actives to retirees over the last 20 years indicates a smaller contribution base supporting the payment of benefits and expenses. In addition, there are inactive members with a right to deferred vested pensions that are not shown in the chart below. For purposes of our valuation, the potential liabilities for such inactive members were estimated and reflected in the valuation.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits Aand B.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 1991 – 2011

Year Ended September 30	Active Members	Retired Members and Beneficiaries	Ratio of Actives to Retirees
1991	11,766	2,901	4.1
1993	11,642	3,473	3.4
1994	12,116	3,751	3.3
1995	11,493	4,438	2.6
1997	11,572	4,682	2.5
1999	10,763	6,212	1.7
2001	9,303	5,581	1.7
2003	10,037	6,093	1.6
2006	10,739	7,282	1.5
2011	10,376	7,592	1.4

Active Members

Plan costs are affected by the age, years of credited service and payroll of active members. In this year's valuation, there were 10,376 active members with an average age of 45.7, average years of credited service of 13.9 years and average payroll of $38,885. The 10,739 active members in the prior valuation had an average age of 45.1, average service of 14.0 years and average payroll of $36,744.

These graphs show a distribution of active members by age and by years of credited service.

CHART 2

Distribution of Active Members by Age as of September 30, 2011

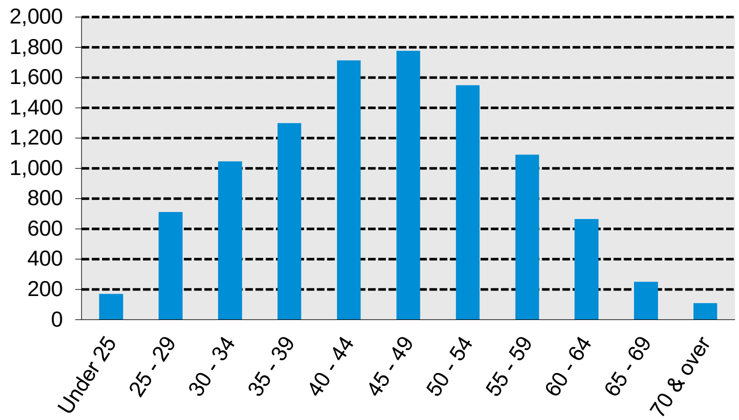
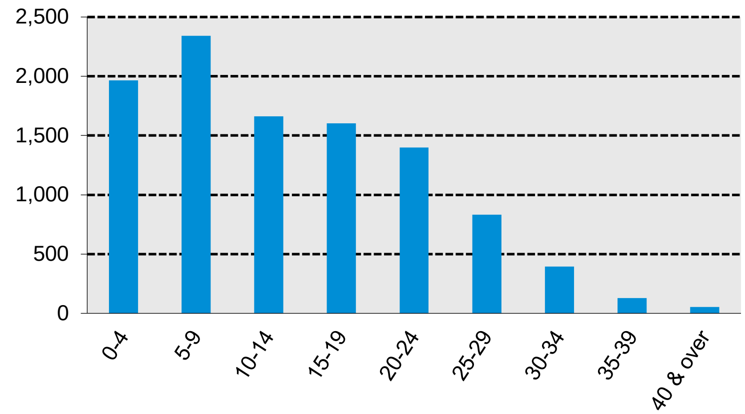


CHART 3

Distribution of Active Members by Years of Credited Service as of September 30, 2011



Retired Members and Beneficiaries

As of September 30, 2011, 7,462retired members and 130 beneficiaries were receiving total semi-monthly benefits of $8,381,441. For comparison, in the previous valuation, there were 7,015retired members and 267 beneficiaries receiving semi-monthly benefits of $6,760,156.

These graphs show a distribution ofthe current retired members based on their semi-monthly amount and age, by type of pension.

CHART 4

Distribution of Retired Members by Type and by Semi-Monthly Amount as of September 30, 2011

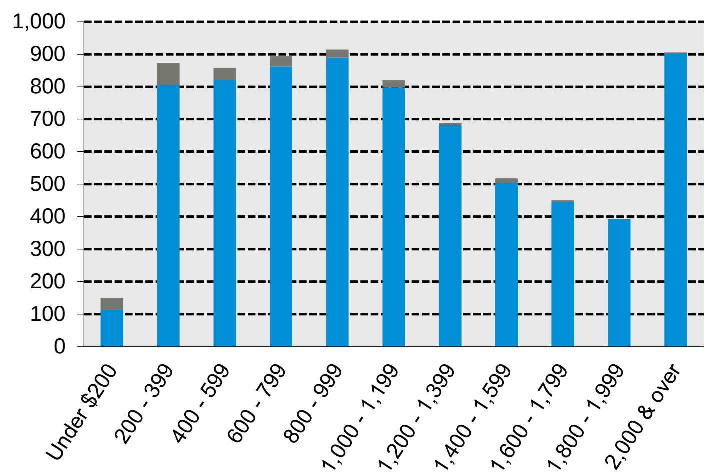
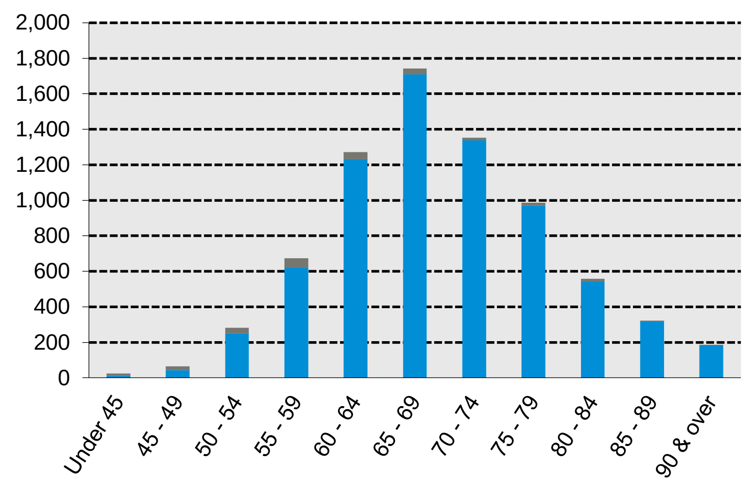


CHART 5

Distribution of Retired Members by Type and by Age as of September 30, 2011



Disability

Non-Disability

B. FINANCIAL INFORMATION

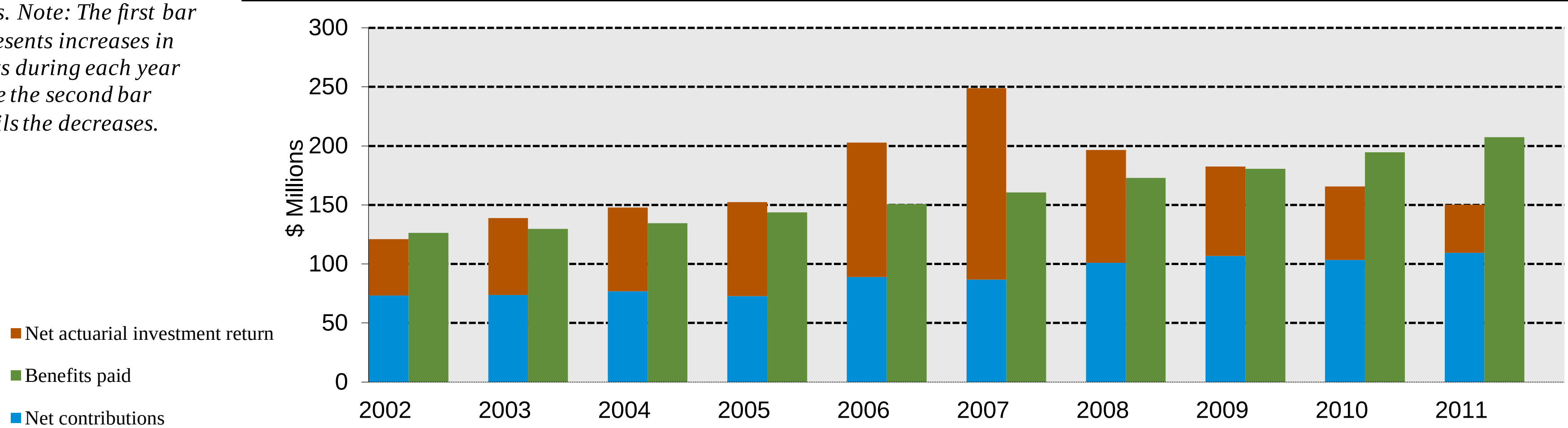
Retirement plan funding anticipates that, over the long term, both net contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits C, D and E.

The chart depicts the components of changes in the actuarial value of assets over the last ten years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6

Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended September 30, 2002 – 2011



It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7

Determination of Actuarial Value of Assets

		Year Ended September 30					
		2011	**2010**	**2009**	**2008**	**2007**	**2006**
1. Market value of assets, September 30		$1,274,271,359	$1,352,287,700	$1,339,310,969	$1,374,765,496	$1,607,369,412	$1,477,477,550
2. Calculation of unrecognized return	Original Amount *	Unrecognized Return**	Unrecognized Return**	Unrecognized Return**	Unrecognized Return**	Unrecognized Return**	Unrecognized Return**
(a) Year ended September 30, 2011	-$96,672,474	-$77,337,979	N/A	N/A	N/A	N/A	N/A
(b) Year ended September 30, 2010	-14,988,487	-8,993,092	-$11,990,790	N/A	N/A	N/A	N/A
(c) Year ended September 30, 2009	-81,518,792	-32,607,517	-48,911,275	-$65,215,034	N/A	N/A	N/A
(d) Year ended September 30, 2008	-278,583,217	-55,716,643	-111,433,287	-167,149,930	-$222,866,574	N/A	N/A
(e) Year ended September 30, 2007	93,092,208	0	18,618,442	37,236,883	55,855,325	$74,473,766	N/A
(f) Year ended September 30, 2006	-2,481,151	0	0	-496,230	-992,460	-1,488,691	-$1,984,921
(g) Year ended September 30, 2005	49,436,754	0	0	0	9,887,351	19,774,702	29,662,052
(h) Year ended September 30, 2004	26,826,275	0	0	0	0	5,365,255	10,730,510
(i) Year ended September 30, 2003	89,884,368	0	0	0	0	0	17,976,874
(j) Year ended September 30, 2002	-129,654,982	0	0	0	0	0	0
(k) Total unrecognized return		-174,655,232	-153,716,910	-$195,624,311	-$158,116,359	$98,125,032	$56,384,515
3. Preliminary actuarial value: (1) - (2k)		1,448,926,591	1,506,004,610	$1,534,935,280	$1,532,881,855	$1,509,244,380	$1,421,093,035
4. Adjustment to be within 20% corridor		0	0	0	0	0	0
5. Final actuarial value of assets as of September 30, 2011: (3) + (4)		$1,448,926,591	$1,506,004,610	$1,534,935,280	$1,532,881,855	$1,509,244,380	$1,421,093,035
6. Actuarial value as a percentage of market value: (5) ÷ (1)		113.7%	111.4%	114.6%	111.5%	93.9%	96.2%
7. Amount deferred for future recognition: (1) - (5)		-$174,655,232	-$153,716,910	-$195,624,311	-$158,116,359	$98,125,032	$56,384,515

* *Total return on market value basis minus expected return on actuarial value basis*

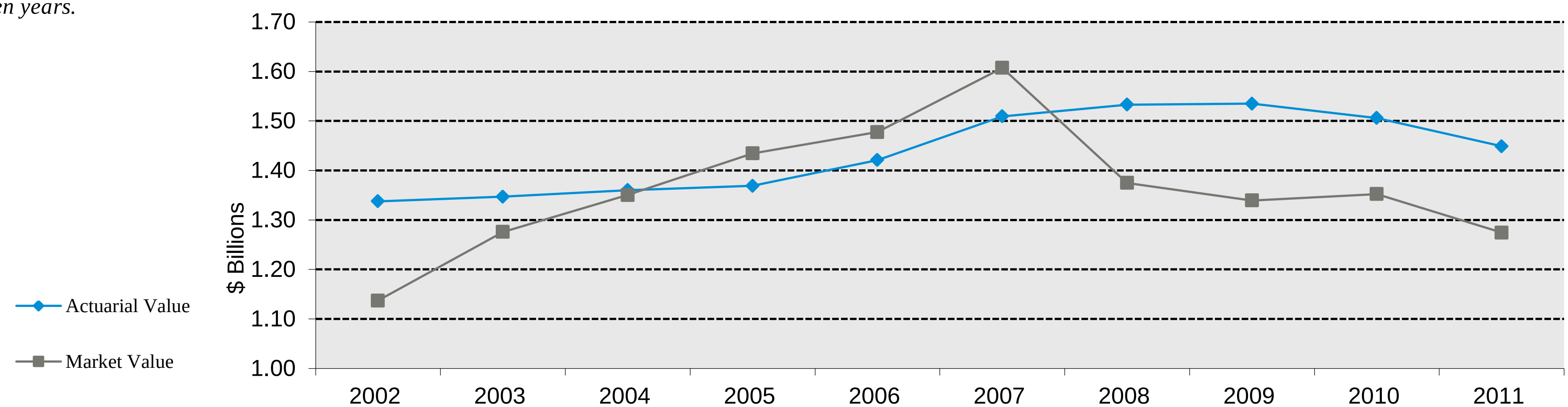
** *Recognition at 20% per year over 5 years*

Both the actuarial value and market value of assets are representations of the Retirement System's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Retirement System's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the market value over the past ten years.

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of September 30, 2002 – 2011



C. ACTUARIAL EXPERIENCE

To calculate the recommended contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated.Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-termdevelopment and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

As shown below, the total loss is $70.9 million, $147.6 million from investment losses offset by $76.7 million in gains from all other sources. The net experience variation from individual sources other than investments was approximately 2.5% of the expected actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past fiveyears.

CHART 9

Actuarial Experience for Five-Year Ended September 30, 2011

1.	Net loss from investments*	-$147,631,015
2.	Net gain from other experience**	76,691,780
3.	Net experience loss: (1) + (2)	-$70,939,235

* *Details in Chart 10*

** *Details in Chart 13*

Investment Rate of Return
A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Retirement System's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets was 8.0% in the last valuation.

Since the actual return for the past five years was less than the assumed return, the Retirement System experienced an actuarial loss during the five-year endedSeptember 30, 2011 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10

Actuarial Value Investment Experience

	Year Ended September 30,				
	2011	**2010**	**2009**	**2008**	**2007**
1. Actual return	$40,829,900	$62,251,642	$75,674,851	$95,522,330	$162,081,911
2. Average value of assets	1,457,050,651	1,489,344,124	1,496,071,142	1,473,301,952	1,384,127,752
3. Actual rate of return: (1) ÷ (2)	2.80%	4.18%	5.06%	6.48%	11.71%
4. Assumed rate of return	8.00%	8.00%	8.00%	8.00%	8.00%
5. Expected return: (2) x (4)	$116,564,052	$119,147,530	$119,685,691	$117,864,156	$110,730,220
6. Actuarial gain/(loss): (1) – (5)	-$75,734,152	-$56,895,888	-$44,010,840	-$22,341,826	$51,351,691

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the market value investment return for the last ten years, including five-year and ten-year averages.

As indicated below, the experience in the past few years has shown lower rates of return than the long-term assumption of 8.0%. Based upon this experience and future expectations, we have changed the assumed rate of return to7.50%.

CHART 11

Investment Return – Actuarial Value vs. Market Value:2002 - 2011

Year Ended September 30	Actuarial Value Investment Return		Market Value Investment Return	
	Amount	**Percent**	**Amount**	**Percent**
2002	$47,652,769	3.62%	$-24,338,277	-2.05%
2003	65,092,552	4.97%	194,663,983	17.55%
2004	71,121,154	5.40%	132,269,237	10.61%
2005	79,765,485	6.02%	155,416,276	11.82%
2006	113,850,560	8.51%	104,567,156	7.45%
2007	162,081,911	11.71%	203,822,428	14.15%
2008	95,522,330	6.48%	-160,719,061	-10.23%
2009	75,674,851	5.06%	38,166,899	2.85%
2010	62,251,642	4.18%	104,159,043	8.05%
2011	40,829,900	2.80%	19,891,578	1.53%
Total	$813,843,154		$767,899,262	
Most recent five-year average return		5.98%		2.96%
Ten-year average return		5.85%		5.81%

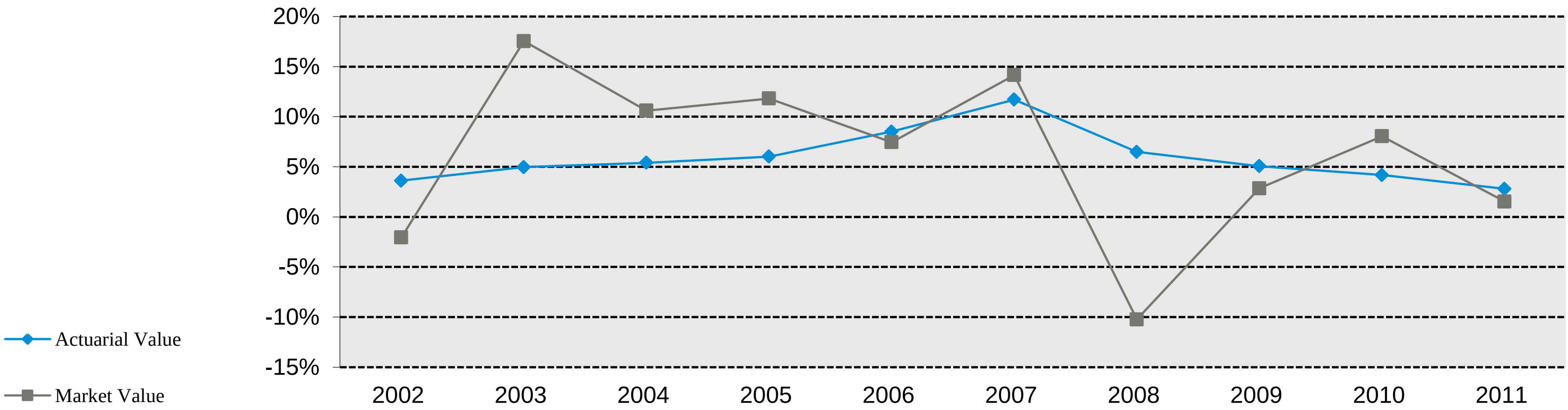
Note: Each year's yield is weighted by the average asset

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the years 2002 - 2011.

CHART 12

Market and Actuarial Rates of Return for Years Ended September 30,2002 - 2011



Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

Another difference may be a significant change in the participant data and changes resulting from estimating the potential liability for current inactive vested members that might be eligible for future benefits. This gain was primarily due to less deaths, retirement and disability increases than expected offset by additional liabilities estimated to reflect potential liability for current inactive vested members that might be eligible for future benefits.

The net gain from this other experience for the five-year ended September 30, 2011 amounted to $76,691,780, which is about 2.5% of the expected actuarial accrued liability.

D. RECOMMENDED CONTRIBUTION

The amount of annual contribution recommended to fund the Plan is comprised of an employer normal cost payment and a payment on the unfunded/(overfunded) actuarial accrued liability. This total amount is then divided by the projected payroll for active members to determine the funding rate of 52.63% of payroll for the year beginning October 1, 2011, as compared to 43.22% of payroll as of October 1, 2006.

The recommended contribution is based on a fixed 20-year amortization of the unfunded actuarial accrued liabilityas adopted by the Board.

The recommended contributions as of October 1, 2011 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted as of the Actuarial Valuation date. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions. However, any changes effective after September 30, 2011 are not reflected in this valuation.

The chart compares this valuation's recommended contribution with the prior valuation.

CHART 13

Recommended Contribution

	Year Beginning October 1			
	2011		2006	
	Amount	% of Payroll	Amount	% of Payroll
1. Total normal cost	$40,601,427	10.06%	$43,676,244	11.07%
2. Administrative expenses	14,873,896	3.69%	10,257,747	2.60%
3. Employer normal cost: (1) + (2)	$55,475,323	13.75%	$53,933,991	13.67%
4. Actuarial accrued liability	3,168,037,497		2,657,664,564	
5. Actuarial value of assets	1,448,926,591		1,421,093,035	
6. Unfunded actuarial accrued liability: (4) - (5)	$1,719,110,906		$1,236,571,529	
7. Payment on unfunded actuarial accrued liability	156,866,378	38.88%	116,618,094	29.55%
8. Total recommended contribution*: (3) + (7)	$212,341,701	52.63%	$170,552,085	43.22%
9. Projected employer contribution	$70,607,948	17.50%	$57,216,397	14.50%
10. Projected members contributions	33,697,352	8.35%	32,754,817	8.30%
11. Total expected contributions (9) + (10)	$104,305,300	25.85%	$89,971,214	22.80%
12. Shortfall (8) - (11)	$108,036,407	26.78%	$80,580,871	20.42%
13. Projected payroll	$403,473,988		$394,595,844	

* *Recommended contributions are assumed to be paid at the beginningof the year.*

E. INFORMATION REQUIRED BY THE GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to the GASB is the historical comparison of the GASB required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded within the range of GASB reporting requirements.Chart 14 below presents a graphical representation of this information for the Plan.

The other critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Plan as calculated under GASB Standards. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

Although the GASB requires that the actuarial value of assets be used to determine the funded ratio, Chart 15 shows the funded ratio calculated using both the actuarial value of assets and the market value of assets.

The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits II, III, and IV.

These graphs show key GASB factors.

CHART 14

Required Versus Actual Employer Contributions

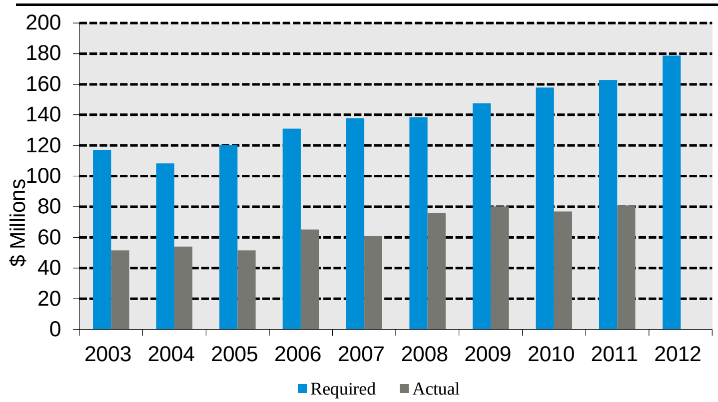


CHART 15

Funded Ratio

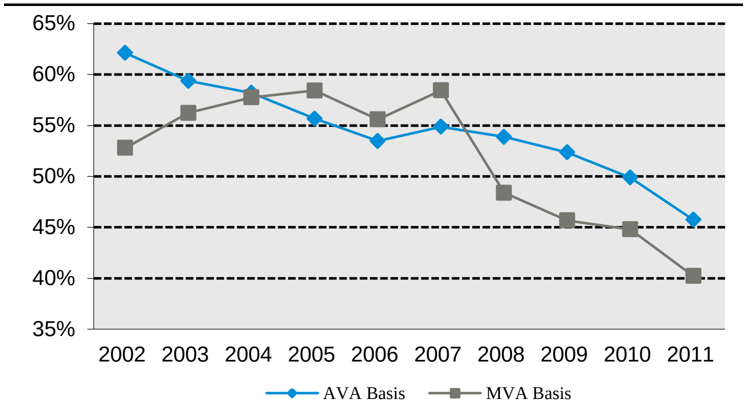


EXHIBIT A
Table of Plan Coverage

Category	Year Ended September 30 2011	Year Ended September 30 2006	Change From Prior Year Valuation
Active members in valuation:			
Number	10,376	10,739	-3.4%
Average age	45.7	45.1	N/A
Average years of credited service	13.9	14.0	N/A
Projected total payroll	$403,473,988	$394,595,844	2.2%
Projected average payroll	$38,885	36,744	5.8%
Total active vested members	6,073	6,427	-5.5%
Retired members:			
Number in pay status	7,462	7,015	6.4%
Average age	69.3	68.6	N/A
Average semi-monthly benefit	$1,117	$947	18.0%
Beneficiaries in pay status:			
Number in pay status	130	267	-51.3%
Average age	74.1	74.1	N/A
Average semi-monthly benefit	$345	$432	-20.1%

EXHIBIT B

Members in Active Service as of September 30, 2011
By Age, Years of Service, and Average Payroll

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	171	156	15	- -	- -	- -	- -	- -	- -	- -
	$27,723	$28,003	$24,810	- -	- -	- -	- -	- -	- -	- -
25 - 29	711	395	311	5	- -	- -	- -	- -	- -	- -
	$31,018	$31,795	$30,001	$32,943	- -	- -	- -	- -	- -	- -
30 - 34	1,045	358	498	168	21	- -	- -	- -	- -	- -
	$34,428	$34,237	$33,892	$36,111	$36,959	- -	- -	- -	- -	- -
35 - 39	1,299	285	388	387	226	13	- -	- -	- -	- -
	$36,655	$35,117	$35,022	$37,536	$39,630	$41,145	- -	- -	- -	- -
40 - 44	1,714	239	351	363	478	278	5	- -	- -	- -
	$39,271	$36,372	$34,877	$38,191	$42,465	$43,403	$29,491	- -	- -	- -
45 - 49	1,777	190	265	265	350	454	235	18	- -	- -
	$40,897	$38,388	$34,300	$38,992	$40,704	$44,539	$45,575	$43,414	- -	- -
50 - 54	1,549	157	213	187	214	303	319	153	3	- -
	$41,291	$37,772	$34,506	$38,910	$39,626	$42,431	$48,081	$43,092	$45,124	- -
55 - 59	1,089	82	143	147	146	180	178	138	70	5
	$43,215	$42,263	$35,698	$40,724	$42,357	$42,707	$49,109	$46,452	$46,104	$50,843
60 - 64	664	70	100	81	105	116	68	62	42	20
	$41,812	$40,337	$35,452	$36,572	$37,467	$44,329	$49,037	$48,242	$48,864	$48,907
65 - 69	249	24	42	39	41	38	19	17	11	18
	$40,554	$48,564	$37,880	$41,356	$35,158	$36,902	$44,750	$43,653	$50,568	$40,904
70 & over	108	8	14	19	23	16	8	7	3	10
	$39,079	$38,283	$30,200	$39,381	$34,556	$40,722	$54,332	$51,304	$26,510	$42,355
Total	10,376	1,964	2,340	1,661	1,604	1,398	832	395	129	53
	$38,885	$35,066	$33,980	$38,254	$40,593	$43,320	$47,544	$45,259	$46,905	$45,136

EXHIBIT C

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended September 30, 2011		Year Ended September 30, 2010	
Net assets at actuarial value at the beginning of the year:		$1,506,004,610		$1,534,935,280
Contribution income:				
Employer contributions	$80,849,762		$77,004,630	
Employee contributions	42,997,146		40,107,669	
Less administrative expenses	-14,440,676		-13,609,415	
Net contribution income		$109,406,232		$103,502,884
Investment income:				
Interest, dividends and other income	$44,575,617		$44,432,403	
Adjustment towards market value	2,124,171		23,299,683	
Less investment fees	-5,869,888		-5,480,444	
Net investment income		40,829,900		62,251,642
Total income available for benefits		$150,236,132		$165,754,526
Less benefit payments:				
Benefits paid to members	-$202,845,685		-$192,678,052	
Refunds of member contributions	-4,468,466		-2,007,144	
Net benefit payments		-$207,314,151		-$194,685,196
Change in reserve for future benefits		-$57,078,019		-$28,930,670
Net assets at actuarial value at the end of the year:		$1,448,926,591		$1,506,004,610

EXHIBIT D

Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended September 30, 2011		Year Ended September 30, 2010	
Net assets at market value at the beginning of the year:		$1,352,287,700		$1,339,310,969
Contribution income:				
Employer contributions	$80,849,762		$77,004,630	
Employee contributions	42,997,146		40,107,669	
Less administrative expenses	-14,440,676		-13,609,415	
Net contribution income		$109,406,232		$103,502,884
Investment income:				
Interest, dividends and other income	$44,575,617		$44,432,403	
Net asset appreciation	-18,814,151		65,207,084	
Less investment and administrative fees	-5,869,888		-5,480,444	
Net investment income		19,891,578		104,159,043
Total income available for benefits		$129,297,810		$207,661,927
Less benefit payments:				
Benefits paid to members	-$202,845,685		-$192,678,052	
Refunds of member contributions	-4,468,466		-2,007,144	
Net benefit payments		-$207,314,151		-$194,685,196
Change in reserve for future benefits		-$78,016,341		$12,976,731
Net assets at market value at the end of the year:		$1,274,271,359		$1,352,287,700

EXHIBIT E

Summary Statement of Plan Assets

	Year Ended September 30, 2011		Year Ended September 30, 2010	
Cash and cash equivalents		$140,416,392		$128,785,311
Accounts receivable:				
Due from department of finance and other agencies	$12,526,509		$7,356,767	
Accrued interest receivable	3,744,821		4,259,384	
Other assets	3,847,837		3,349,434	
Total accounts receivable		20,119,167		14,965,585
Investments:				
Equities	$486,825,169		$567,741,252	
Debt securities	239,425,196		269,785,966	
Member loans	140,270,894		138,188,268	
Real estate	99,701,248		96,881,088	
Asset-backed securities	70,161,943		59,735,721	
Limited partnership	52,915,221		48,710,369	
Other investments	43,883,543		53,166,425	
Total investments at market value		1,133,183,214		1,234,209,089
Total assets		$1,293,718,773		$1,377,959,985
Less accounts payable:				
Securities purchased	$9,768,517		$4,392,593	
Cash overdraft with bank	3,203,498		4,063,431	
Line of credit	0		9,963,002	
Deferred gain-foreign currency	0		1,002,154	
Other liabilities	6,475,399		6,251,105	
Total accounts payable		-$19,447,414		-$25,672,285
Net assets at market value		$1,274,271,359		$1,352,287,700
Net assets at actuarial value		$1,448,926,591		$1,506,004,610

EXHIBIT F

Development of the Fund Through September 30, 2011

Year Ended September 30	Employer Contributions	Employee Contributions	Net Actuarial Investment Return*	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
2002	$50,594,531	$29,510,016	$47,652,769	$6,751,169	$126,224,419	$1,337,676,064
2003	51,588,235	30,508,442	65,092,552	8,268,198	129,690,233	1,346,906,862
2004	54,084,454	30,800,512	71,121,154	8,095,749	134,528,897	1,360,288,336
2005	51,542,030	30,415,687	79,765,485	9,287,655	143,758,685	1,368,965,198
2006	65,061,430	34,209,871	113,850,560	10,257,747	150,736,277	1,421,093,035
2007	60,778,382	35,769,001	162,081,911	9,838,704	160,639,245	1,509,244,380
2008	75,871,146	36,957,585	95,522,330	11,927,702	172,785,884	1,532,881,855
2009	80,177,004	40,099,762	75,674,851	13,364,747	180,533,445	1,534,935,280
2010	77,004,630	40,107,669	62,251,642	13,609,415	194,685,196	1,506,004,610
2011	80,849,762	42,997,146	40,829,900	14,440,676	207,314,151	1,448,926,591

* *Net of investment fees*

EXHIBIT G
Section 415 Limitations

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $195,000 for 2011 increasing to $200,000 for 2012 and $205,000 for 2013. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

EXHIBIT H
Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial Accrued Liability For Actives: The value of all projected benefit payments for current members less the portion that will be paid by future normal costs.

Actuarial Accrued Liability For Pensioners: The single-sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

UnfundedActuarial Accrued Liability: The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

Amortization of the Unfunded Actuarial Accrued Liability: Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.

Investment Return: The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

EXHIBIT I
Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1.	Retired members as of the valuation date (including 130 beneficiaries in pay status)		7,592
2.	Members active during the year ended September 30, 2011		10,376
	Fully vested	6,073	
	Not vested	4,303	

The actuarial factors as of the valuation date are as follows:

1.	Normal cost, including administrative expenses		$55,475,323
2.	Present value of future benefits		3,446,984,498
3.	Present value of future normal costs		278,947,001
4.	Actuarial accrued liability		3,168,037,497
	Retired members and beneficiaries	$1,854,768,608	
	Inactive members with vested rights	140,094,780	
	Active members	1,173,174,109	
5.	Actuarial value of assets ($1,274,271,359 at market value as reported by GERS)		1,448,926,591
6.	Unfunded actuarial accrued liability		$1,719,110,906

EXHIBIT I (continued)
Summary of Actuarial Valuation Results

The determination of the recommended contribution is as follows:

1.	Total normal cost		$40,601,427
2.	Administrative expenses		14,873,896
3.	Total normal cost: (1) + (2)		$55,475,323
4.	Payment on projected unfunded actuarial accrued liability		$156,866,378
5.	Total recommended contribution: (3) + (4), payable at beginning of year		$212,341,701
6.	Total expected contributions		$104,305,300
	Employer	$70,607,948	
	Members	33,697,352	
7.	Shortfall (5) - (6)		$108,036,401
8.	Projected payroll		$403,473,988
9.	Total recommended contribution as a percentage of projected payroll: (5) ÷ (8)		52.63%

EXHIBIT II

Supplementary Information Required by the GASB – Schedule of Employer Contributions

Plan Year Ended September 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
2003*	$117,124,599	$51,588,235	44.05%
2004	108,358,399	54,084,454	49.91%
2005*	120,184,848	51,542,030	42.89%
2006*	131,059,471	65,061,430	49.64%
2007	137,797,268	60,778,382	44.11%
2008*	138,488,871	75,871,146	54.79%
2009*	147,490,851	80,177,004	54.36%
2010*	157,817,709	77,004,630	48.79%
2011*	162,841,336	80,849,762	49.65%
2012	178,644,349	--	--

* *Estimated based on prior year's actuarial valuation.*

EXHIBIT III

Supplementary Information Required by the GASB – Schedule of Funding Progress

Actuarial Valuation Date October 1	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
2002*	$1,337,676,064	$2,153,560,483	$815,884,419	62.11%	$367,803,013	221.83%
2003	1,346,906,862	2,268,576,720	921,669,858	59.37%	338,444,739	272.33%
2004*	1,360,288,336	2,337,790,360	977,502,024	58.19%	372,996,234	262.07%
2005*	1,366,982,183	2,455,556,736	1,088,574,553	55.67%	355,462,276	306.24%
2006	1,421,093,035	2,657,664,564	1,236,571,529	53.47%	394,595,844	313.38%
2007*	1,509,244,380	2,750,383,258	1,241,138,878	54.87%	419,161,255	296.10%
2008*	1,530,604,789	2,840,823,515	1,310,218,726	53.88%	433,549,406	302.21%
2009*	1,534,899,736	2,932,161,397	1,397,261,661	52.35%	458,154,309	304.98%
2010*	1,505,970,212	3,019,029,885	1,513,059,673	49.88%	440,026,457	343.86%
2011	1,448,926,591	3,168,037,497	1,719,110,906	45.74%	403,473,988	426.08%

* *For these years, the AAL was estimated based on projecting the AAL from the last completed actuarial valuation.*

EXHIBIT IV

Supplementary Information Required by the GASB

Valuation date	October 1, 2011
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level dollar, closed group
Remaining amortization period	20 years
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the actuarial value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
Actuarial assumptions:	
Investment rate of return	7.50%
Projected salary increases	4.00%
Cost of living adjustments	Retirement benefits increased by 1.6% of the original amount each year after age 60. Disability benefits are also increased by 1% per year prior to age 60.
Plan membership:	
Retired members and beneficiaries receiving benefits	7,592
Active members	10,376
Total	17,968

EXHIBIT V
Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

RP-2000 Combined Healthy Mortality Table set forward 2 years

This mortality table was determined to contain provision appropriate to reasonably reflect future mortality improvement, based on a review of mortality experience as of the measurement date.

Termination Rates before Retirement:

Rate (%)

Age	Mortality		Disability		Withdrawal	
	Male	Female	Non-Public Safety	Public Safety	Regular	Non-Regular
20	0.04	0.02	0.03	0.05	7.94	5.44
25	0.04	0.02	0.03	0.05	7.72	4.89
30	0.06	0.04	0.03	0.05	7.22	3.70
35	0.09	0.06	0.03	0.06	6.28	2.35
40	0.12	0.09	0.05	0.09	5.15	1.13
45	0.17	0.13	0.09	0.18	3.98	0.27
50	0.27	0.20	0.20	0.40	2.56	0.00
55	0.47	0.35	0.43	0.85	0.94	0.00
60	0.88	0.67	0.87	1.74	0.09	0.00

Retirement Rates:

	Retirement Rates for Regular Members	
Age/Service	Males	Females
54 and 30 years of service	20%	0%
57 and 30 years of service	30%	25%
60 and 30 years of service	30%	50%
63 and 10 years of service	100%	100%

Retirement Rates (continued):

	Public Safety:	100% at the earlier of 25 years of service or 55 with 10 years of service.
	Judges:	100% at 50 with 20 years of service.
	Legislature:	100% at 53 with 6 years of service.

Unknown Data for Participants: Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.

Adjustment for Incomplete Data: Due to inconsistent or incomplete data as of September 30, 2011, the following assumptions were made:

- Any participant who was previously coded as a public safety employee was assumed to remain a public safety employee.
- Inactive vested participants were not provided. Participants who were vested as of September 30, 2006 and not yet in pay status but are not on any files as of September 30, 2011, were assumed to be entitled to future benefits. In addition, vested participants who were on the active file with no hours in the current year were also assumed to be entitled to future benefits.
- Employee contribution balances were not provided for pensioners. We have assumed the employee contribution balances would guarantee benefits for four years.

Percent Married: 80%

Age of Spouse: Females 3 years younger than males.

Net Investment Return: 7.50%

Salary Increases: 4.0%

Annual Administrative Expenses: $14,873,896, payable at the beginning of the year for the year beginning October 1, 2011.

Actuarial Value of Assets:	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the actuarial value, and is recognized over a five - year period, further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment.Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated as a level percent of salary.
Changes in Assumptions:	Based on past experience and future expectations, the following actuarial assumptions were changed: • Net Investment Return, previously 8.0% • Salary Increases, previously 5.5%

EXHIBIT VI
Summary of Plan Provisions

This exhibit summarizes the major provisions of the Retirement System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	October 1 through September 30
Plan Status:	Ongoing plan

Service Pension:

Regular Employees	
Eligibility	Age 60 with 10 years of service or any age with 30 years of service
Amount	Tier 1: 2.5% of Final Average Salary* per year of service up to 100%
	Tier 2: 1.75% of Final Average Salary* per year of service up to 100%
Public Safety Employees	
Eligibility	Age 55 with 10 years of service or any age with 20 years of service
Amount	Tier 1: 3.0% of Final Average Salary* per year of service up to 90%
	Tier 2: 2.1% of Final Average Salary* per year of service up to 90%

* *Final Average Salary for Regular and Public Safety Employees is based on the average of the highest annual salary up to a maximum of $65,000 for any five years in the last 10 years.*

Legislature	
Eligibility	Age 50 with 6 years of service or any age with 20 years of service
Amount	Tier 1: 2.5% of highest compensation for years 1-6
	3% of highest compensation for years 7-12
	4% of highest compensation for years above 12, up to a maximum of 75%
	Tier 2: 3.5% of highest compensation for years 1-6
	4% of highest compensation for years 7-12
	4.5% of highest compensation for years 13-20
	5% of highest compensation for years above 20, up to a maximum of 100%
Judges	
Eligibility	Age 50 with 6 years of service
Amount	5% of highest compensation per year of service up to 100%
Early Retirement:	
Regular Employees	
Eligibility	Age 50 with 10 years of service
Amount	Service Pension reduced 3.9% per year less than age 60
Public Safety Employees	
Eligibility	Age 50 with 10 years of service
Amount	Service Pension reduced 3.9% per year less than age 55
Disability:	
Duty Connected Disability	
Eligibility	Total and permanent disability as a result of performance of duty
Amount	Tier 1: 75% salary less workers compensation
	Tier 2: 52.5% salary less workers compensation

Non-Duty Connected Disability	
Eligibility	9 years of service and total and permanent disability
Amount	Tier 1: 2.0% of Final Average Salary* per year of service up to 60%, 20% minimum Tier 2: 1.4% of Final Average Salary* per year of service up to 42%, 14% minimum * *Final Average Salary for Regular and Public Safety Employees is based on the average of the highest annual salary up to a maximum of $65,000 for any five years in the last 10 years.*
Vesting:	
Eligibility	10 years of service and leave contributions in System
Amount	Service pension accrued at termination
Severance Benefit:	
Amount	Refund of contributions with 4% annual interest, if no other benefits payable
Post-Retirement COLAs:	
Pensioners	1.5% of the original retirement benefit each year after age 60
Disabled Pensioners	1% of the original retirement benefit each year up to age 60
Survivor annuitants	None
Pre-Retirement Death Benefit:	
Duty Connected Death	
Eligibility	Death in service as a result of performance of duty
Amount	Tier 1: Annuity of 40% of salary in effect on date of death to widow plus 10% of salary for each child up to age 18 to a maximum family benefit of 60% of salary. If no widow, 10% of salary is payable on behalf of each child under age 18 to a maximum family benefit of 50%. If no widow or children, each dependent parent is entitled to 25% of salary. Tier 2: Annuity of 28% of salary in effect on date of death to widow plus 7% of salary for each child up to age 18 to a maximum family benefit of 42% of salary. If no widow, 7% of salary is payable on behalf of each child under age 18 to a maximum family benefit of 35%. If no widow or children, each dependent parent is entitled to 17.5% of salary.

Non-Duty Connected Death	
Eligibility	Death in service
Amount	Accumulated contributions of deceased member to designated beneficiary. Tier 1: If, at the time of death, the member was eligible for a service or early retirement annuity, the surviving spouse, if any, can elect a 100% survivor annuity based on the benefit which would have been payable to the member had he/she retired the date before he/she died
Post-Retirement Death Benefits:	
Lump - sum Benefit	Lump sum payment equal to the excess of the sum of contributions plus annual salary at retirement (maximum $10,000) over the total of benefits paid.
Husband and Wife	If married, pension benefits are paid in the form of a joint and survivor annuity unless this form is rejected by the participant and spouse. If not rejected, the benefit amount otherwise payable is reduced to reflect the joint and survivor coverage. If rejected, or if not married, benefits are payable for the life of the employee, or in any other available optional form elected by the employee in an actuarially equivalent amount.
Optional Forms of Payment:	50% joint-and-survivor annuity 100% joint-and-survivor annuity
Contribution Rates:	

Employee Contribution Rates (% of Payroll)	Tier 1	Tier 2
Regular Employees	8%	8.5%
Public Safety Employees	10%	10.625%
Legislature	9%	11%
Judges	11%	

Employer Contributions: 17.5% of payroll

Changes in Plan Provisions: There have been no changes in plan provisions since the last valuation.

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