

# Government of the Virgin Islands Retirement System

Actuarial Valuation and Review as of  
October 1, 2015





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*August 8, 2016*

*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, 2015. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal year ending September 30, 2016 and later years and analyzes the preceding year's 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. That assistance is gratefully acknowledged.*

*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,*

*Segal Consulting, a Member of The Segal Group, Inc.*

*By:*

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

*Aldwin Frias, FSA, FCA, MAAA, EA  
Senior Vice President and Actuary*

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## SECTION 1: Valuation Summary for the Government of the Virgin Islands Retirement System

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### **Purpose**

This report has been prepared by Segal Consulting to present a valuation of the Government of the Virgin Islands Retirement System as of October 1, 2015. 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, 2015;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of October 1, 2015, provided by the GERS;
- The assets of the Plan as of September 30, 2015, provided by the Fund Auditor;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

## SECTION 1: Valuation Summary for the Government of the Virgin Islands Retirement System

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### Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** The valuation is based on the market value of assets as of the valuation date, as provided by the Fund Auditor.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

## SECTION 1: Valuation Summary for the Government of the Virgin Islands Retirement System

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The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Government of the Virgin Islands Retirement System (GERS) Retirement Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If GERS is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board of Trustees should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

## SECTION 1: Valuation Summary for the Government of the Virgin Islands Retirement System

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### Significant Issues in Valuation Year

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

1. It is our understanding that the legislation that covers the System provides that contributions are to be made on an actuarial reserve basis. An actuarial valuation is performed to calculate the “Actuarially Determined Employer Contributions” (ADEC) and is based on the assumptions and methods adopted by the Board for this purpose. Furthermore, Section 718(l) of the Virgin Islands Code prohibits the Board from paying benefits that are not adequately funded.
2. The actual amounts contributed by the government employers to the System have not been based on the ADEC amounts. The amounts contributed have been significantly less than the ADEC (see Section 4, Exhibit II) for many years:
  - Although the employer contribution rate was recently increased from 17.5% to 20.5% of pay, ADEC have increased from 35% of pay in 2006 to 67% of pay as of October 1, 2015.
  - Therefore, current benefits are not being funded adequately on an actuarial basis.
3. The historical and continuing shortfall in the contributions to the System has resulted in increasing negative cash flow, declining assets and increasing unfunded actuarial liabilities.
4. Based on the recently concluded Actuarial Experience Study for the period October 1, 2011 to September 30, 2015 and the discussions of our recommendations during the July 2016 Board Retreat, the mortality, retirement, turnover, disability, salary scale, inflation, administration expense and net investment return assumptions were revised effective with this valuation.
  - The net investment return assumption was lowered from 7.5% to 7.0%.
  - The mortality assumption was updated to use the RP-2014 Mortality base tables developed by the Society of Actuaries and to include a generational projection to anticipate future mortality improvement.
  - Lowering the net investment return assumption and reflecting future mortality improvement on a generational basis have the most significant impact in increasing the cost and liabilities of the System.
  - While the net investment return assumption has a significant impact on the System’s liabilities and cost, lowering the net investment assumption has minimal impact on the System’s projected insolvency.
  - The changes to retirement assumptions partially offset the impact of the change in mortality assumptions.

## SECTION 1: Valuation Summary for the Government of the Virgin Islands Retirement System

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- Due to the current state of the System, we recommended and the Board approved a change in the asset method to market value of assets until reforms are adopted and implemented to address the solvency issues.
  - All other changes in assumptions and methods are described in detail in Section 4 Exhibit V and have relatively minimal impact to the cost of the System.
5. Based on the results of this valuation, the System is projected to run out of assets during the year ending September 30, 2023. Upon insolvency, the projected contributions are expected to cover only about half of the projected benefits and expenses. Without additional financial resources (contributions or other commitments) and/or adjustments to the benefit levels, the System's continued viability is in jeopardy.
  6. The actuarial valuation report as of October 1, 2015 is based on draft financial information provided 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 System, while favorable experience will decrease the actuarial cost of the System.



**SECTION 1: Valuation Summary for the Government of the Virgin Islands Retirement System**

7.

**Summary of Key Valuation Results**

	<b>2015</b>		<b>2014</b>
<b>Contributions for fiscal year beginning October 1:</b>		<b>% of Payroll</b>	<b>% of Payroll</b>
Actuarially determined contribution	\$284,807,821	77.39%	\$232,709,497
Expected contributions:			
Employer	75,444,821	20.50%	70,231,718
Employee	37,649,684	10.23%	32,619,706
Shortfall	171,713,316	46.66%	\$129,858,073
<b>Funding elements for plan year beginning October 1:</b>			
Normal cost, including administrative expenses	\$56,985,129		\$52,619,530
Market value of assets	991,041,251		1,152,791,325
Actuarial value of assets	991,041,251		1,154,728,837
Actuarial accrued liability	3,573,547,073		3,128,348,875
Unfunded actuarial accrued liability	2,582,505,822		1,973,620,038
Funded ratio	27.73%		36.91%
Projected insolvency in plan year ending September 30	2023		2025
<b>Demographic data for plan year beginning October 1:</b>			
Number of retired members and beneficiaries	8,465		8,465
Number of active members	9,303		9,227
Projected covered payroll	\$368,023,518		\$355,603,633
Projected average payroll	\$39,560		\$38,539
<b>GASB 67 information as of September 30:</b>			
Total pension liability	\$5,062,702,088		\$4,228,909,387
Plan fiduciary net position	991,041,251		1,152,791,375
Net pension liability	4,071,660,837		3,076,118,012
Plan fiduciary net position as a percentage of the total pension liability	19.58%		27.26%

## SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System

### A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, 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 A and B.

*A historical perspective of how the member population has changed over the past 20 years can be seen in this chart.*

**CHART 1**  
**Member Population: 1995 – 2015**

Year Ended September 30	Active Members	Retired Members and Beneficiaries	Ratio of Actives to Retirees
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
2013	9,393	8,024	1.2
2014	9,227	8,465	1.1
2015	9,303	8,465	1.1

**SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System**

**Active Members**

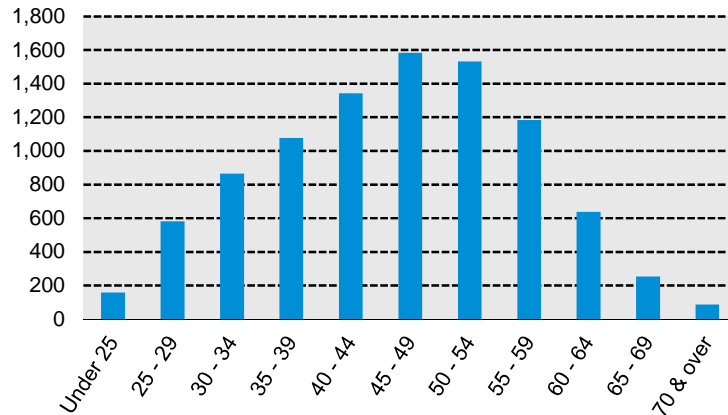
Plan costs are affected by the age, years of credited service and payroll of active members. In this year's valuation, there were 9,303 active members including 3,553 Tier 2 employees with an average age of 46.5, average years of credited service of 14.7 years and average payroll of \$39,560. The 9,227 active members including 3,235 Tier 2 employees in the prior valuation had an average age of 46.2, average years of credited service of 14.4 years and average payroll of \$38,539.

Tier 2 employees are those employees hired on or after October 1, 2005.

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

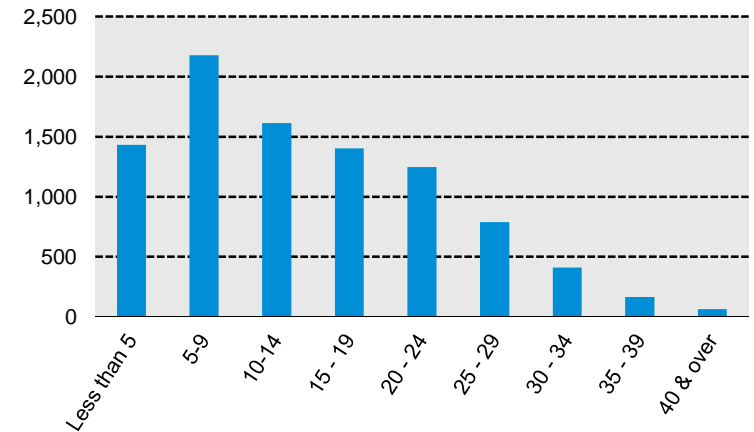
**CHART 2**

**Distribution of Active Members by Age as of September 30, 2015**



**CHART 3**

**Distribution of Active Members by Years of Credited Service as of September 30, 2015**



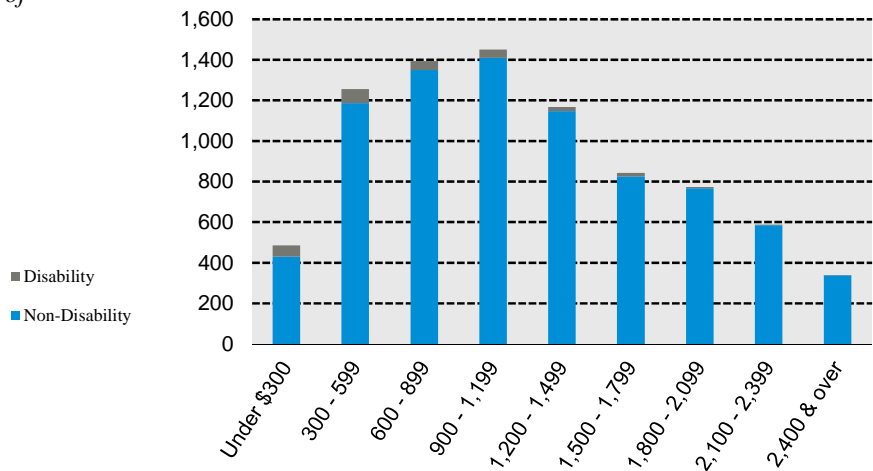
**SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System**

**Retired Members and Beneficiaries**

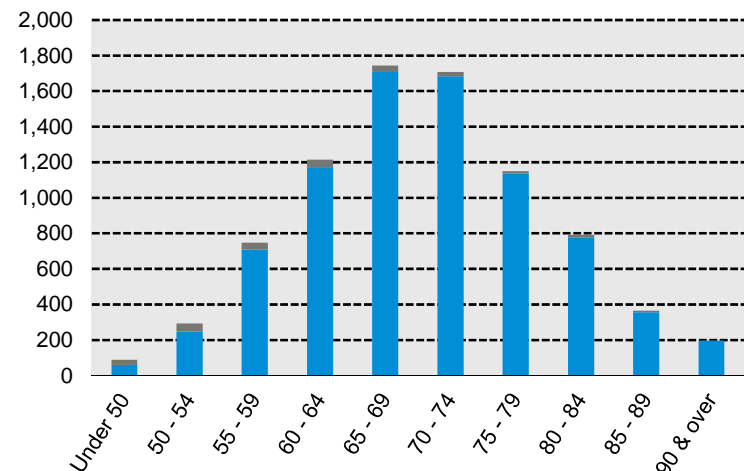
As of September 30, 2015, 8,295 retired members and 170 beneficiaries were receiving total semi-monthly benefits of \$10,004,807. For comparison, in the previous valuation, there were 8,293 retired members and 172 beneficiaries receiving semi-monthly benefits of \$9,883,025.

*These graphs show a distribution of the 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, 2015**



**CHART 5**  
**Distribution of Retired Members by Type and by Age as of September 30, 2015**



**SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System**

**B. FINANCIAL INFORMATION**

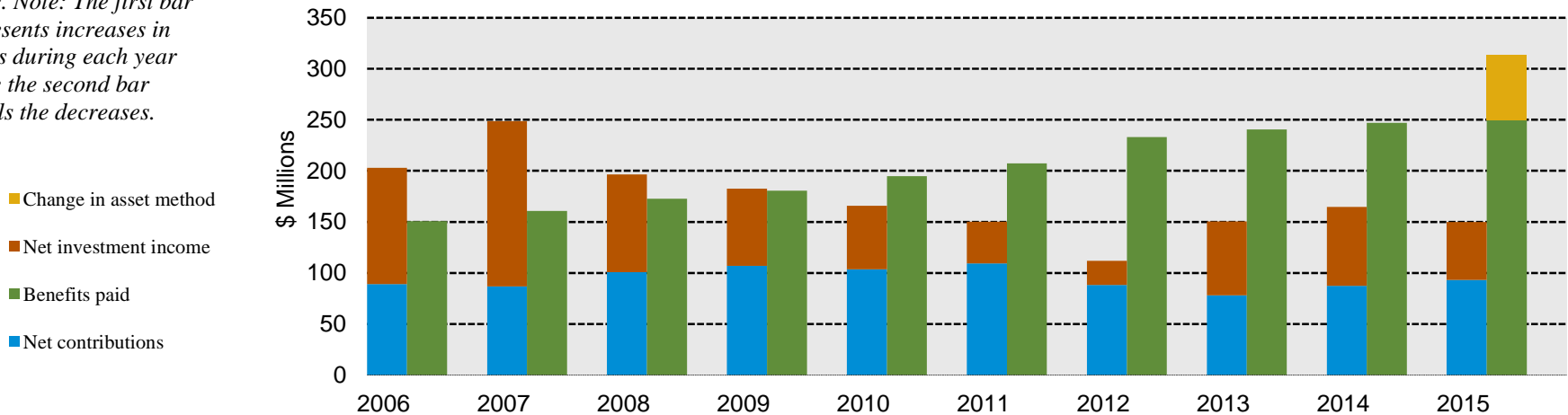
Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

With this valuation, as approved by the Board, the asset valuation method has been changed to use market value. Once the short-term cash flow issues have been addressed, it is recommended that the Board review the asset valuation method and consider using a method that provides more level and predictable long-term costs.

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, 2006 – 2015**



## SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System

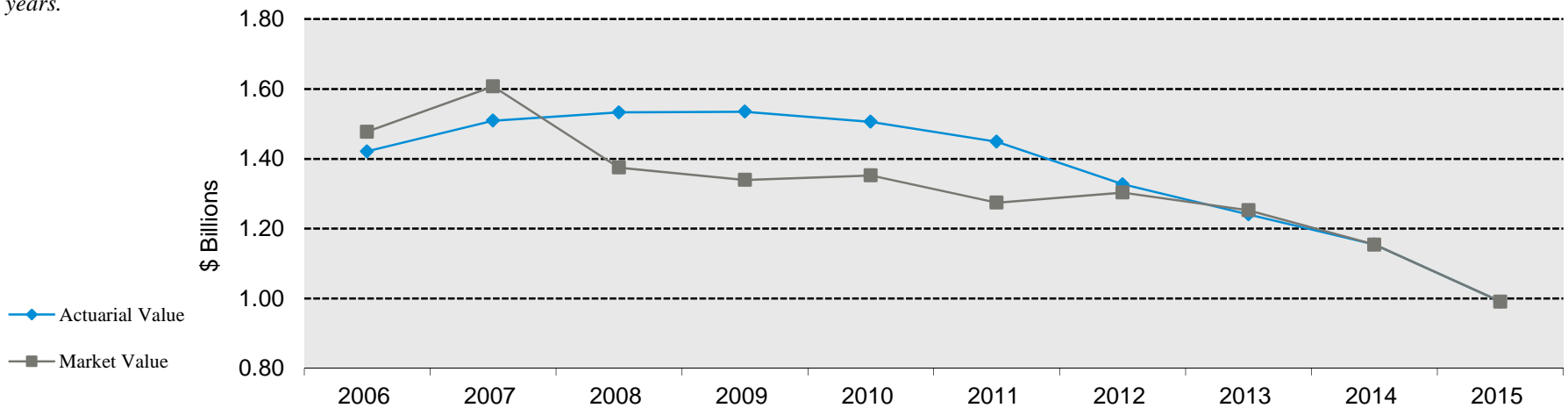
The actuarial value of assets is a representation of the System's financial status. The actuarial asset value is significant because the plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

As discussed earlier, the actuarial value of assets is set equal to the market value starting with this valuation.

*This chart shows how the actuarial value of assets versus the market value has changed over the past ten years.*

**CHART 7**

**Actuarial Value of Assets vs. Market Value of Assets as of September 30, 2006 – 2015**



## SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System

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### C. ACTUARIAL EXPERIENCE

To calculate the required 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-term development 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 \$79.5 million. The net experience variation from individual sources other than investments was 1.8% 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 year.*

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### CHART 8

#### Actuarial Experience for Year Ended September 30, 2015

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1. Net loss from investments*	-\$24,053,909
2. Net loss from administrative expenses	-415,351
3. Net loss from other experience	<u>-55,080,021</u>
4. Net experience loss: (1) + (2) + (3)	-\$79,549,281

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\* Details in Chart 9

**SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System**

**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 System’s investment policy. With this valuation, the assumed rate of return on the actuarial value of assets was revised from 7.5% to 7.0%. The actual rate of return on an actuarial basis for the 2015 plan year was 5.27%, prior to reflecting the change in asset method to market value. Including the change to market value, the net actuarial return is -0.64%.

Since the actual return for the year was less than the assumed return, the System experienced an actuarial loss during the year ended September 30, 2015 with regard to its investments.

*This chart shows the loss due to investment experience.*

**CHART 9  
Actuarial Value Investment Experience for Year Ended September 30, 2015**

1. Actual return, prior to reflecting change in asset method	\$56,670,089
2. Average value of assets	1,076,319,974
3. Actual rate of return: (1) ÷ (2)	5.27%
4. Assumed rate of return for the plan year ended September 30, 2015	7.50%
5. Expected return: (2) x (4)	\$80,723,998
6. Actuarial loss: (1) – (5)	<u>-\$24,053,909</u>
7. Change in asset method to market value	-63,539,949
8. Net return (1) + (7)	<u>-\$6,869,860</u>
9. Net rate of return (8) ÷ (2)	-0.64%



## SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System

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 for the last fourteen years, including five-year and fourteen-year averages.

As adopted by the Board and based upon this experience and future expectations, the assumed rate of return was changed from 7.5% to 7.0%.

### CHART 10

#### Investment Return – Actuarial Value vs Market Value: 2002 - 2015

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%
2012	23,046,297	1.67%	174,056,576	14.48%
2013	72,583,326	5.83%	111,523,919	9.12%
2014	77,187,305	6.67%	60,326,921	5.14%
2015	<u>-6,869,860*</u>	-0.64%*	<u>-4,932,397</u>	-0.46%
Total	\$979,790,222		\$1,108,874,281	
	Most recent five-year average return:	3.28%		6.04%
	14-year average return:	5.22%		6.20%

*Note: Each year's yield is weighted by the average asset value in that year.*

*\* The actuarial return includes the change in asset valuation method*

**SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System**

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The chart below illustrates the actuarial and market rates of return over the past ten years.

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**CHART 11**  
**Market and Actuarial Rates of Return for Years Ended September 30, 2006 - 2015**

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## SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System

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### **Administrative Expenses**

Administrative expenses for the year ended September 30, 2015 totaled \$16,401,722 compared to the assumption of \$16,000,000, payable monthly. This resulted in a loss of \$415,351 for the year, when adjusted for timing. We have changed the assumption from \$16,000,000 to \$16,500,000 for the current year.

### **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 or changes resulting from estimating the potential liability for current inactive vested members that may be eligible for future benefits.

The net loss from this other experience for the year ended September 30, 2015 amounted to \$55,080,021, which is 1.8% of the expected actuarial accrued liability. The loss was the net result of gains and losses from several areas.

An actuarial experience study was recently completed to evaluate the System's experience during the period October 1, 2011 to September 30, 2015 and develop information to establish recommended assumptions and methods for future valuations and projections. Based on past experience and future expectations from emerging trends, the mortality, retirement, turnover, disability and salary scale assumptions were changed effective with this valuation. A complete description of the changes can be found in Section 4, Exhibit V.

## SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System

### D. ACTUARIALLY DETERMINED CONTRIBUTION

The actuarially determined contribution to fund the System is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the projected payroll for active members to determine the funding rate of 77.39% of payroll for the year beginning October 1, 2015, as compared to 65.44% of payroll as of October 1, 2014.

The actuarially determined contribution is based on a fixed 20-year amortization of the unfunded actuarial accrued liability as adopted by the Board. The actuarially determined contribution requirements as of October 1, 2015 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, actuarial gains and losses and changes in the actuarial assumptions.

*The chart compares this valuation's actuarially determined contribution with the prior valuation.*

**CHART 12**  
**Actuarially Determined Contribution**

	Year Beginning October 1			
	2015		2014	
	Amount	% of Payroll	Amount	% of Payroll
1. Total normal cost	\$41,075,869	11.16%	\$36,619,530	10.30%
2. Administrative expenses (beginning of the year)	<u>15,909,260</u>	<u>4.32%</u>	<u>16,000,000</u>	<u>4.50%</u>
3. Employer normal cost: (1) + (2)	56,985,129	15.48%	52,619,530	14.80%
4. Actuarial accrued liability	3,573,547,077		3,128,348,875	
5. Actuarial value of assets	<u>991,041,254</u>		<u>1,154,728,837</u>	
6. Unfunded actuarial accrued liability: (4) – (5)	2,582,505,823		1,973,620,038	
7. Payment on unfunded actuarial accrued liability	227,822,692	61.90%	180,089,967	50.64%
8. Actuarially determined contribution*: (3) + (7)	<u>\$284,807,821</u>	<u>77.39%</u>	<u>\$232,709,497</u>	<u>65.44%</u>
9. Projected employer contributions	75,444,821	20.50%	70,231,718	19.75%
10. Projected members contributions	<u>37,649,684</u>	<u>10.23%</u>	<u>32,619,706</u>	<u>9.17%</u>
11. Total expected contributions (9) + (10)	\$113,094,505	30.73%	\$102,851,424	28.92%
12. Shortfall (8) – (11)	<u>\$171,713,316</u>	<u>46.66%</u>	<u>\$129,858,073</u>	<u>36.52%</u>
13. Projected payroll	\$368,023,518		\$355,603,633	

\*The actuarially determined contributions are based on payment at the beginning of the year.

**SECTION 2: Valuation Results for the Government of the Virgin Islands Retirement System**

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**Reconciliation of Actuarially Determined Contribution**

The chart below details the changes in the actuarially determined contribution from the prior valuation to the current year’s valuation.

*The chart reconciles the actuarially determined contribution from the prior valuation to the amount determined in this valuation.*

**CHART 13**

**Reconciliation of Actuarially Determined Contribution from October 1, 2014 to October 1, 2015**

<b>Actuarially Determined Contribution as of October 1, 2014</b>	\$232,709,497
Effect of change in asset method	\$5,605,347
Effect of open amortization period	-4,627,799
Effect of change in administrative expense assumption	500,000
Effect of change in other actuarial assumptions	30,059,490
Effect of contributions less than actuarially determined contribution	12,885,068
Effect of investment loss	2,246,767
Effect of other gains and losses	<u>5,429,451</u>
<b>Total change</b>	<u>\$52,098,324</u>
<b>Actuarially Determined Contribution as of October 1, 2015</b>	\$284,807,821

**SECTION 3: Supplemental Information for the Government of the Virgin Islands Retirement System**

**EXHIBIT A**

**Table of Plan Coverage**

<b>Category</b>	<b>Year Ended September 30</b>		<b>Change From Prior Year</b>
	<b>2015</b>	<b>2014</b>	
<b>Active members in valuation:</b>			
Number	9,303	9,227	0.8%
Average age	46.5	46.2	0.3
Average years of credited service	14.7	14.4	0.3
Projected total payroll	\$368,023,518	\$355,603,633	3.5%
Projected average payroll	\$39,560	\$38,539	2.6%
Total active vested members	5,697	5,514	3.3%
<b>Retired members:</b>			
Number in pay status	8,295	8,293	0.0%
Average age	69.9	69.6	0.3
Average semi-monthly benefit	\$1,197	\$1,183	1.2%
<b>Beneficiaries in pay status:</b>			
Number in pay status	170	172	-1.2%
Average age	77.7	77.5	0.2
Average semi-monthly benefit	\$439	\$426	3.1%

**SECTION 3: Supplemental Information for the Government of the Virgin Islands Retirement System**

**EXHIBIT B**

**Members in Active Service as of September 30, 2015  
By Age, Years of Credited Service, and Average Covered Payroll**

Age	Years of Credited Service									
	Total	Less than 5	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	159	151	8	--	--	--	--	--	--	--
	\$29,204	\$29,263	\$28,099	--	--	--	--	--	--	--
25 - 29	582	353	216	13	--	--	--	--	--	--
	31,782	32,201	30,858	\$35,751	--	--	--	--	--	--
30 - 34	865	241	439	179	6	--	--	--	--	--
	34,442	34,041	33,986	36,038	\$36,240	--	--	--	--	--
35 - 39	1,077	190	365	368	148	6	--	--	--	--
	37,025	35,302	35,606	37,848	40,278	\$47,105	--	--	--	--
40 - 44	1,342	137	311	308	384	189	13	--	--	--
	39,310	37,935	34,865	38,220	41,702	44,381	\$41,593	--	--	--
45 - 49	1,584	120	283	239	340	414	178	10	--	--
	41,790	37,965	36,197	37,784	41,540	47,355	45,626	\$51,575	--	--
50 - 54	1,533	94	213	202	226	328	285	170	15	--
	42,320	40,769	33,717	37,525	40,714	44,702	48,256	46,439	\$51,417	--
55 - 59	1,184	91	177	148	150	189	186	151	87	5
	41,541	39,084	35,513	34,924	40,008	41,796	45,973	49,866	45,904	\$39,624
60 - 64	638	37	104	89	93	84	92	60	46	33
	43,344	46,334	36,258	35,655	40,688	43,001	47,389	49,617	55,054	52,418
65 - 69	253	14	44	52	40	32	24	16	15	16
	43,164	47,623	35,887	36,176	39,349	40,068	52,301	51,085	66,900	53,841
70 & over	86	5	19	15	16	5	10	4	3	9
	42,218	65,000	39,035	33,116	40,457	44,633	40,149	28,163	39,286	62,767
Total	9,303	1,433	2,179	1,613	1,403	1,247	788	411	166	63
	\$39,560	\$35,272	\$34,627	\$37,164	\$41,000	\$44,871	\$46,932	\$48,290	\$50,715	\$53,242

**SECTION 3: Supplemental Information for the Government of the Virgin Islands Retirement System**

**EXHIBIT C**

**Summary Statement of Income and Expenses on an Actuarial Value Basis**

	Year Ended September 30, 2015	Year Ended September 30, 2014
<b>Net assets at actuarial value at the beginning of the year</b>	\$1,154,728,837	\$1,237,213,473
<b>Contribution income:</b>		
Employer contributions	\$72,287,934	\$68,298,617
Employee contributions	36,245,015	34,020,107
Less administrative expenses	<u>-16,401,722</u>	<u>-18,494,773</u>
Net contribution income	92,131,227	83,823,951
<b>Other income</b>	1,161,302	3,573,611
<b>Investment income:</b>		
Interest, dividends and other income	\$23,500,955	\$30,213,073
Adjustment towards market value	37,407,359	49,932,954
Less investment fees	<u>-4,238,225</u>	<u>-2,958,722</u>
Net investment income	<u>56,670,089</u>	<u>77,187,305</u>
<b>Total income available for benefits</b>	\$149,962,618	\$164,584,867
<b>Less benefit payments:</b>		
Benefits paid to members	-\$246,072,384	-\$239,713,063
Refunds of members contributions	<u>-4,037,871</u>	<u>-7,356,440</u>
Net benefit payments	-\$250,110,255	-\$247,069,503
<b>Change in actuarial asset method</b>	-\$63,539,949	\$0
<b>Change in reserve for future benefits</b>	-\$163,687,586	-\$82,484,636
<b>Net assets at actuarial value at the end of the year</b>	\$991,041,251	\$1,154,728,837



**SECTION 3: Supplemental Information for the Government of the Virgin Islands Retirement System**

**EXHIBIT D**

**Summary Statement of Income and Expenses on a Market Value Basis**

	Year Ended September 30, 2015	Year Ended September 30, 2014
<b>Net assets at market value at the beginning of the year</b>	\$1,152,791,375	\$1,252,509,113
<b>Contribution income:</b>		
Employer contributions	\$72,287,934	\$68,298,617
Employee contributions	36,245,015	34,020,107
Less administrative expenses	<u>-16,401,722</u>	<u>-18,494,773</u>
Net contribution income	92,131,227	83,823,951
<b>Other income</b>	1,161,302	3,573,611
<b>Investment income:</b>		
Interest, dividends and other income	\$23,500,955	\$37,045,846
Net asset appreciation	-24,195,128	26,239,797
Less investment fees	<u>-4,238,225</u>	<u>-2,958,722</u>
Net investment income	<u>-4,932,398</u>	<u>60,326,921</u>
<b>Total income available for benefits</b>	\$88,360,131	\$147,351,765
<b>Less benefit payments:</b>		
Benefits paid to members	-\$246,072,384	-\$239,713,063
Refunds of member contributions	-4,037,871	-7,356,440
Net benefit payments	-\$250,110,255	-\$247,069,503
<b>Change in reserve for future benefits</b>	-\$161,750,124	-\$99,717,738
<b>Net assets at market value at the end of the year</b>	\$991,041,251	\$1,152,791,375

**SECTION 3: Supplemental Information for the Government of the Virgin Islands Retirement System**

**EXHIBIT E**

**Summary Statement of Plan Assets**

	Year Ended September 30, 2015	Year Ended September 30, 2014
<b>Cash and cash equivalents</b>	\$57,177,831	\$51,438,732
<b>Accounts receivable:</b>		
Due from department of finance and other agencies	\$5,501,438	\$10,618,291
Accrued interest receivable	3,208,566	2,421,783
Other assets	3,126,869	3,046,751
Foreign currency contracts	<u>0</u>	<u>239,214</u>
Total accounts receivable	11,836,873	16,326,039
<b>Investments:</b>		
Mutual funds	\$377,954,449	\$487,821,519
U.S. equities	169,924,687	151,663,524
Member loans	159,217,924	157,111,977
Real estate	72,885,625	81,118,790
Debt securities	52,830,114	112,123,228
Limited partnerships	46,639,764	53,907,600
Asset backed securities	29,315,436	30,970,242
Other investments	<u>29,245,584</u>	<u>29,205,764</u>
Total investments at market value	938,013,583	1,103,922,644
<b>Total assets</b>	\$1,007,028,287	\$1,171,687,415
<b>Less accounts payable:</b>		
Retirement benefits in process of payment	-\$3,986,620	-\$4,021,823
Securities purchased	-454,596	-3,996,207
Other liabilities	<u>-11,545,820</u>	<u>-10,878,010</u>
Total accounts payable	-\$15,987,036	-\$18,896,040
<b>Net assets at market value</b>	<u>\$991,041,251</u>	<u>\$1,152,791,375</u>
<b>Net assets at actuarial value</b>	<u>\$991,041,251</u>	<u>\$1,154,728,837</u>

**SECTION 3: Supplemental Information for the Government of the Virgin Islands Retirement System**

**EXHIBIT F**

**Development of the Fund Through September 30, 2015**

<b>Year Ended September 30</b>	<b>Employer Contributions</b>	<b>Employee Contributions</b>	<b>Other Income</b>	<b>Net Actuarial Investment Return*</b>	<b>Administrative Expenses</b>	<b>Benefit Payments</b>	<b>Actuarial Value of Assets at End of Year</b>
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	180,533,545	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
2012	66,677,155	37,727,063	-\$2,239,690**	23,046,297	18,481,417	233,096,472	1,327,038,907
2013	64,431,322	34,090,376	-783,854**	72,583,326	19,581,770	240,564,834	1,237,213,473
2014	68,298,617	34,020,107	3,573,611	77,187,305	18,494,773	247,069,503	1,154,728,837
2015	72,287,934	36,245,015	1,161,302	-6,869,860**	16,401,722	250,110,255	991,041,251

\* *Net of investment fees*

\*\* *Includes adjustment due to restatement from draft financial statements.*

### **SECTION 3: Supplemental Information for the Government of the Virgin Islands Retirement System**

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#### **EXHIBIT G**

##### **Section 415 Limitation**

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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 \$210,000 for 2015 and 2016. 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.

**SECTION 3: Supplemental Information for the Government of the Virgin Islands Retirement System**

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**EXHIBIT H**

**Definitions of Pension Terms**

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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) Withdrawal 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.

**Unfunded Actuarial 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.

### SECTION 3: Supplemental Information for the Government of the Virgin Islands Retirement System

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#### **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.

## SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System

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### EXHIBIT I

#### Summary of Actuarial Valuation Results

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

1. Retired members as of the valuation date (including 170 beneficiaries in pay status)		8,465
2. Members active during the year ended September 30, 2015		9,303
Fully vested	5,697	
Not vested	3,606	

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

1. Normal cost, including administrative expenses		\$56,985,129
2. Present value of future benefits		3,892,910,213
3. Present value of future normal costs		319,363,140
4. Actuarial accrued liability		3,573,547,073
Retired members and beneficiaries	\$2,252,917,801	
Inactive members with vested rights	172,969,563	
Active members	1,147,659,709	
5. Actuarial value of assets (\$991,041,251 at market value as reported by Bert Smith & Co., CPAs)		991,041,251
6. Unfunded actuarial accrued liability		\$2,582,505,822

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**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

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**EXHIBIT I (continued)**

**Summary of Actuarial Valuation Results as of October 1, 2015**

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The determination of the actuarially determined contribution is as follows:

1. Total normal cost		\$41,075,869
2. Administrative expenses (beginning of year)		<u>15,909,260</u>
3. Total normal cost: (1) + (2)		\$56,985,129
4. 20-year amortization of the unfunded actuarial accrued liability		227,822,692
5. Total actuarially determined contribution: (3) + (4), payable at beginning of the year		\$284,807,821
6. Total expected contributions		<u>\$113,094,505</u>
Employer	\$75,444,821	
Members	37,649,684	
7. Shortfall (5) – (6)		\$171,713,316
8. Projected covered payroll		\$368,023,518
9. Total actuarially determined contribution as a percentage of projected payroll: (5) ÷ (8)		77.39%

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**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

**EXHIBIT II**

**History of Employer Contributions**

<b>Plan Year Ended September 30</b>	<b>Actuarially Determined Employer Contributions*</b>	<b>Actual Employer Contributions</b>	<b>Percentage Contributed</b>
2006**	\$131,059,471	\$65,061,430	49.6%
2007	137,797,268	60,778,382	44.1%
2008**	138,488,871	75,871,146	54.8%
2009**	147,490,851	80,177,004	54.4%
2010**	157,817,709	77,004,630	48.8%
2011**	162,841,336	80,849,762	49.6%
2012	178,644,349	66,677,155	37.3%
2013**	172,439,842	64,431,322	37.4%
2014	189,715,251	68,298,617	36.0%
2015	200,089,791	72,387,934	36.1%
2016	247,158,137	Not yet available	Not yet available

\* Prior to 2014, this amount was the Annual Required Contribution (ARC) and based on GASB statement No. 25

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

**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

**EXHIBIT III**

**Schedule of Funding Progress**

<b>Actuarial Valuation October 1 Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (UAAL) (b) - (a)</b>	<b>Funded Ratio (a) / (b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll (b) - (a) / (c)</b>
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%
2012*	1,327,038,907	2,930,797,361	1,603,758,454	45.28%	381,012,309	420.92%
2013	1,237,213,473	3,080,464,945	1,843,251,472	40.16%	370,131,865	498.00%
2014	1,154,728,837	3,128,348,875	1,973,620,038	36.91%	355,603,633	555.01%
2015	991,041,251	3,573,547,073	2,582,505,822	27.73%	368,023,518	701.72%

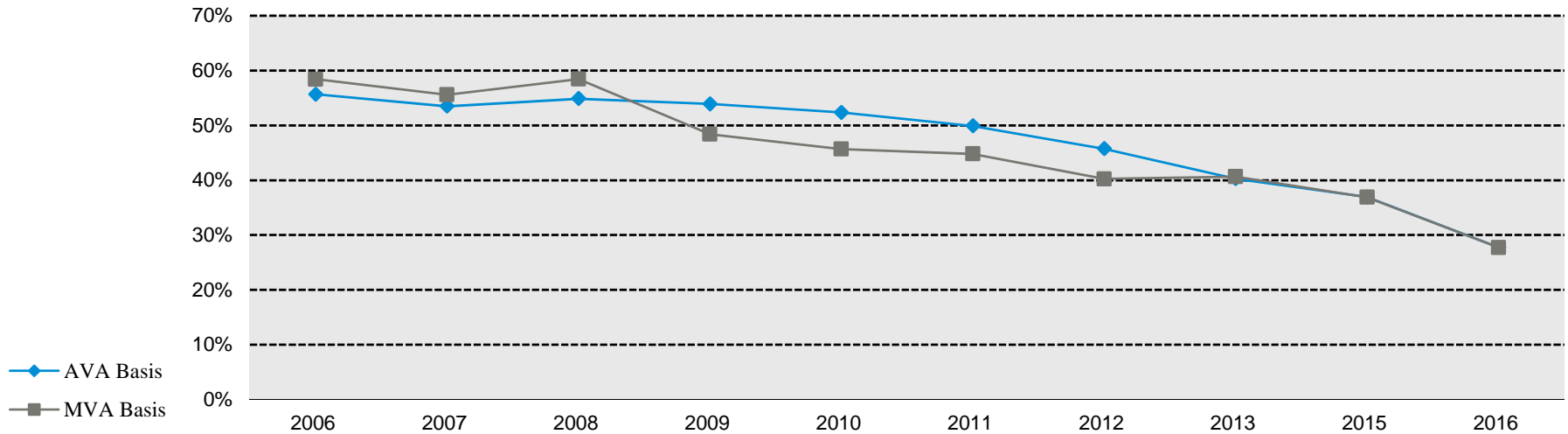
\* For these years, the AAL was estimated based on projecting the AAL from the last completed actuarial valuation.

**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

**EXHIBIT IV  
Funded Ratio**

A 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. 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.

The chart below depicts a history of the funded ratios for this plan.



## SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System

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### EXHIBIT V

#### Actuarial Assumptions and Actuarial Cost Method

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##### **Rationale for Assumptions and Methods:**

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the Actuarial Experience Study as of September 30, 2015. Based on the results of this study and professional judgment, the Board of Trustees approved the changes in the assumptions for net investment return, mortality, retirement, turnover, disability, salary scale, inflation and administrative expenses. In addition, the Board approved changing the asset valuation method from a smoothing method to using the market value of assets.

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##### **Mortality Rates:**

Non-annuitant: 110% of the RP-2014 Blue Collar Employee Mortality Table with generational projection from 2015 using Scale MP-2015

Healthy annuitant: 110% of the RP-2014 Blue Collar Healthy Annuitant Mortality Table with generational projection from 2015 using Scale MP-2015

Disabled annuitant: 125% of the RP-2014 Disabled Annuitant Mortality Table with generational projection from 2015 using Scale MP-2015

The underlying tables reasonably reflect the mortality experience of the System as of the measurement date. These mortality tables were then adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

<b>Termination Rates before Retirement:</b>			<b>Rate (%)</b>		
<b>Age</b>	<b>Mortality</b>		<b>Disability</b>		<b>Withdrawal</b>
	<b>Male</b>	<b>Female</b>	<b>Regular</b>	<b>Public Safety</b>	<b>Required and Public Safety</b>
20	0.06	0.02	0.03	0.05	3.97
25	0.07	0.02	0.03	0.05	3.86
30	0.06	0.03	0.03	0.05	3.61
35	0.07	0.04	0.03	0.06	3.14
40	0.09	0.05	0.05	0.09	2.58
45	0.14	0.08	0.09	0.18	1.99
50	0.24	0.14	0.20	0.40	1.88
55	0.40	0.21	0.43	0.85	0.47
60	0.67	0.30	0.87	1.74	0.05

\* Mortality rates shown for base table.

\*\* Withdrawal rates do not apply at or beyond early retirement age.

No withdrawal and disability rates assumed for judges and legislature members.

<b>Retirement Rates for Actives:</b>	<b>Retirement Rates for Regular Members (%)</b>			<b>Retirement Rates for Regular Members (%)</b>		
	<b>Age</b>	<b>&lt;30 Years of service</b>	<b>&gt;=30 years of service</b>	<b>Age</b>	<b>&lt;30 years of service</b>	<b>&gt;=30 years of service</b>
	50-59	3	15	66	7	25
	60-61	10	20	67-68	7	15
	62-63	10	35	69-70	15	50
	64	10	25	71 & older	100	100
	65	20	25			

**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

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<b>Retirement Rates for Public Safety Members (%)</b>			
<b>Age</b>	<b>Rate</b>	<b>Age</b>	<b>Rate</b>
<50 with at least 20 years of service	10	55-59	10
50-51	5	60	40
52	15	61-64	20
53-54	5	65 & older	100
<b>Judges:</b>	100% at earlier of age 50 with at least 20 years of service or age 70 with at least six years of service.		
<b>Legislature:</b>	100% at earlier of any age with at least 20 years of service or age 60 with at least six years of service.		

**Retirement Age for Inactive Vested Participants:** 65

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

**Adjustment to Inactive Vested Data:** Service information for inactive vested participants was determined based on date of hire and termination, if available. If not available, inactive vested participants were assumed to have ten years of service as of the valuation date. Vested benefit amounts were estimated based on participant's salary and assumed service.

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**Percent Married:** 80%

**Age of Spouse:** Females three years younger than males

#### SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System

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<b>Net Investment Return:</b>	7.00%. The net investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes, as well as the Plan's target asset allocation.
<b>Salary Increases:</b>	3.25% per year
<b>Administrative Expenses:</b>	\$16,500,000, payable monthly for the year beginning October 1, 2015
<b>Actuarial Value of Assets:</b>	At market value
<b>Actuarial Cost Method:</b>	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 with Normal Cost determined as if the current benefit accrual rate of the participant's job category and tier of benefits had always been in effect.

## SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System

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### Changes in Assumptions and Methods:

Based on past experience and future expectations, the Board approved to change the following actuarial assumptions and methods:

- Net investment return, previously 7.5%
- Salary increases, previously 4.0%
- Administrative expenses, previously \$16.0 million
- Mortality for healthy and disabled lives, previously the RP-2000 Combined Healthy Mortality Table set forward 2 years
- Termination and disability rates for judges and legislature members, previously rates based on age
- Termination rates for regular members, previously based on rates that are double the current rates
- Termination rates for public safety members, previously rates based on age different than regular members
- Retirement rates for regular male members, previously 20% at age 54 with at least 30 years of service, 30% at age 57 with at least 30 years of service, 30% at age 60 with at least 30 years of service and 100% at age 63 with at least 10 years of service
- Retirement rates for regular female members, previously 25% at age 57 with at least 30 years of service, 50% at age 60 with at least 30 years of service and 100% at age 63 with at least 10 years of service
- Retirement rates for public safety employees, 100% at the earlier of 25 years of service or age 55 with at least 10 years of service
- Retirement rates for judges, previously 100% at age 50 with at least 20 years of service
- Retirement rates for legislature, previously 100% at age 53 with at least 6 years of service
- Asset valuation method, previously based on a method that smoothed the asset gains and losses over five years



**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

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**EXHIBIT VI**

**Summary of Plan Provisions**

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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.

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**Plan Year:** October 1 through September 30

**Plan Status:** Ongoing plan

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**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.*

**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

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**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*

Tier 1: 5% of highest compensation per year of service up to 100%

Tier 2: 5% of highest compensation per year of service up to 100%

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**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

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**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

## SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System

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### Non-Duty Connected Disability

<i>Eligibility</i>	9 years of service and total and permanent disability
<i>Amount</i>	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.*

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### Vesting:

<i>Eligibility</i>	10 years of service and leave contributions in System
<i>Amount</i>	Service pension accrued at termination

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### Severance Benefit:

<i>Amount</i>	Refund of contributions with 4% annual interest, if no other benefits payable.
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### Post-Retirement COLAs:

<i>Disabled Pensioners</i>	1% of the original retirement benefit each year up to age 60, 1.5% thereafter.
<i>Pensioners and Survivor annuitants</i>	None

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### Pre-Retirement Death Benefit:

#### Duty Connected Death

<i>Eligibility</i>	Death in service as a result of performance of duty
<i>Amount</i>	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.

**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

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**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.

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**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.

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**Optional Forms of Payment:**

50% joint-and-survivor annuity

100% joint-and-survivor annuity

**SECTION 4: Reporting Information for the Government of the Virgin Islands Retirement System**

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**Contribution Rates  
Effective January 1, 2016:**

<b>Employee Contribution Rates (% of Payroll)</b>	<b>Tier 1</b>	<b>Tier 2</b>
Regular Employees	10%	10.5%
Public Safety Employees	12%	12.625%
Legislature	11%	13%
Judges	11%	14%

Employer Contribution Rate: 20.5% of payroll, effective January 1, 2015

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**Changes in Plan Provisions and  
Contribution Rates:**

There have been no benefit changes since September 30, 2013. However, starting January 1, 2015, the employee contribution rate for Tier 1 and Tier 2 employees will increase 1% per year for each of the next three years.

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## SECTION 5: GASB Information for Government of the Virgin

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### EXHIBIT 1

#### Net Pension Liability

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The components of the net pension liability as of September 30, 2015 were as follows:

Total pension liability	\$5,062,702,088
Plan fiduciary net position	991,041,251
Net pension liability	4,071,660,837
Plan fiduciary net position as a percentage of the total pension liability	19.58%

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*Actuarial assumptions.* The total pension liability was determined by an actuarial valuation as of September 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	3.25%, including inflation
Investment rate of return	3.84%, net of pension plan investment expense, including inflation

The demographic assumptions are the same as the assumptions used in the October 1, 2015 funding valuation and were based on the results of an actuarial experience study for the period October 1, 2011 through September 30, 2015.

Mortality rates for healthy lives were based on 110% of the RP-2014 Blue Collar Healthy Annuitant and Employee Mortality Tables with generational projection from 2015 using Scale MP-2015. Mortality rates for disabled lives were based on 125% of the RP-2014 Disabled Retiree Mortality Table with generational projection from 2015 using Scale MP-2015.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2015 are summarized in the following table:

**SECTION 5: GASB Information for Government of the Virgin**

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity	28%	6.82%
International equity	10%	8.44%
Fixed income	26%	1.72%
Cash	4%	1.12%
Alternatives (including Local Assets)	<u>32%</u>	6.50%
<b>Total</b>	100%	

*Discount rate:* The discount rate used to measure the total pension liability was 3.84% as of September 30, 2015 and 4.42% as of September 30, 2014. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate, including the increases in the employee contribution rates effective January 1, 2016 and 2017. Based on those assumptions, the pension plan's fiduciary net position was not projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments of 7.0% was applied to all periods of projected benefit payments that are covered by projected assets. For periods where projected future benefit payments are not covered by projected assets, the yield on a 20-year AA Municipal Bond Index was applied. As of September 30, 2015, that rate was 3.71%.

Note, the discount rate to measure the total pension liability as of September 30, 2014 was developed using the same method as described above but a 7.5% assumed long-term return was applied to all periods of projected benefit payments that are covered by projected assets and a 20-Year AA Municipal Bond Index of 4.11% as of September 30, 2014 was applied to those periods where projected benefit payments were not covered by projected assets.

*Sensitivity of the net pension liability to changes in the discount rate.* The following presents the net pension liability calculated using the discount rate of 3.84%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (2.84%) or 1-percentage-point higher (4.84%) than the current rate:

	1% Decrease (2.84%)	Current Discount (3.84%)	1% Increase (4.84%)
Net pension liability	\$4,758,924,284	\$4,071,660,837	\$3,504,899,199

**SECTION 5: GASB Information for Government of the Virgin**

**EXHIBIT 2**

**Schedules of Changes in Net Pension Liability**

September 30,	2015	2014	2013	2012	2011
<b>Total pension liability</b>					
Service cost	\$69,262,969	\$65,274,936			
Interest	184,451,782	191,113,749			
Change in contribution rates	0	-40,421,809			
Differences between expected and actual experience	98,193,233	35,917,905			
Changes of assumptions	731,994,972	241,527,329			
Benefit payments, including refunds of employee contributions	<u>-250,110,255</u>	<u>-247,069,503</u>			
<b>Net change in total pension liability</b>	\$833,792,701	\$246,342,607			
<b>Total pension liability – beginning</b>	<u>4,228,909,387</u>	<u>3,982,566,780</u>			
<b>Total pension liability – ending (a)</b>	<u>\$5,062,702,088</u>	<u>\$4,228,909,387</u>			
<b>Plan fiduciary net position</b>					(Historical information prior to implementation of GASB 67/68 is not required)
Contributions – employer	\$72,287,934	\$68,298,617			
Contributions – employee	36,245,015	34,020,107			
Net investment income	-4,932,398	60,326,921			
Benefit payments, including refunds of employee contributions	-250,110,255	-247,069,503			
Administrative expense	-16,401,722	-18,867,491			
Other	1,161,302	3,573,611			
<b>Net change in plan fiduciary net position</b>	-\$161,750,124	-\$99,717,738			
<b>Plan fiduciary net position – beginning</b>	<u>1,152,791,375</u>	<u>1,252,509,113</u>			
<b>Plan fiduciary net position – ending (b)</b>	\$991,041,251	\$1,152,791,375			
<b>Net pension liability – ending (a) – (b)</b>	<u>\$4,071,660,837</u>	<u>\$3,076,118,012</u>			
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	19.58%	27.26%			
<b>Covered employee payroll*</b>	\$368,023,518	\$355,603,633			
<b>Net pension liability as percentage of covered employee payroll</b>	1,106.36%	865.04%			

\* Covered employee payroll as reported in the participant data as of each valuation date



## SECTION 5: GASB Information for Government of the Virgin

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### Notes to Schedule:

#### *Benefit changes:*

There have been no benefit changes since September 30, 2013

#### *Change of Assumptions:*

In the year ended September 30, 2014, amounts reported as changes in assumptions resulted from a decrease in the discount rate used to measure the total pension liability from 4.87% as of September 30, 2013 to 4.42% as of September 30, 2014.

In the year ended September 30, 2015, amounts reported as changes in assumptions resulted from a decrease in the discount rate used to measure the total pension liability from 4.42% as of September 30, 2014 to 3.84% as of September 30, 2015 and several changes in assumptions based on the actuarial experience study as of September 30, 2015 adopted by the Board effective September 30, 2015. The changes include changes to the long-term expected rate of return, salary scale, inflation, the mortality assumption for healthy and disabled lives including the provision for future mortality improvement, retirement ages for active members and pre-retirement decrement rates for turnover and disability.

**SECTION 5: GASB Information for Government of the Virgin**

**EXHIBIT 3**

**Schedule of Contribution – Last Ten Fiscal Years**

<b>Year Ended September 30</b>	<b>Actuarially Determined Employer Contributions</b>	<b>Contributions in Relation to the Actuarially Determined Employer Contributions</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered-Employee Payroll</b>	<b>Contributions as a Percentage of Covered Employee Payroll</b>
2006*	\$131,059,471	\$65,061,430	\$65,998,041	\$355,462,276	18.30%
2007	137,797,268	60,778,382	77,018,886	394,595,844	15.40%
2008*	138,488,871	75,871,146	62,617,725	419,161,255	18.10%
2009*	147,490,851	80,177,004	67,313,847	433,549,406	18.49%
2010*	157,817,709	77,004,630	80,813,079	458,154,309	16.81%
2011*	162,841,336	80,849,762	81,991,574	440,026,457	18.37%
2012	178,644,349	66,677,155	111,967,194	403,473,988	16.53%
2013*	172,439,842	64,431,322	108,008,520	381,012,309	16.91%
2014	189,715,251	68,298,617	121,416,634	370,131,865	18.45%
2015	200,089,791	72,287,934	127,801,857	355,603,633	20.33%

\* Estimated based on prior year's actuarial valuation

**SECTION 5: GASB Information for Government of the Virgin**

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**EXHIBIT 4**

**Notes to Required Supplementary Information**

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<b>Valuation date</b>	Actuarially determined contributions are calculated as of October 1
<b>Methods and assumptions used to determine contribution rates:</b>	
<b>Actuarial cost method</b>	Entry Age Normal Cost Method determined as a level percent of salary
<b>Amortization method</b>	Level dollar, closed group
<b>Amortization period</b>	20 years open amortization
<b>Asset valuation method</b>	Market value
<b>Actuarial assumptions:</b>	The actuarial assumptions are the same as the assumptions used in the October 1, 2015 funding actuarial valuation.

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