



April 17, 2017

Ms. Kim Free
Pension Plan Administrator
Utility Board of the City of Key West
1001 James Street
Key West, Florida 33040-6935

Re: January 1, 2017 Actuarial Valuation

Dear Kim:

As requested, we are pleased to enclose two (2) copies of the January 1, 2017 Actuarial Valuation Report for the Retirement System for General Employees of the Utility Board of the City of Key West.

We appreciate the opportunity to work with the Board on this important project. We look forward to presenting the key financial results of our Valuation at an upcoming Pension Board Meeting. Please provide the date and time.

As you are aware, the State issued a Memorandum on January 20, 2017 announcing the activation of their new online reporting portal for pension plans. Upon approval of this Actuarial Valuation Report, we will upload a copy of the Actuarial Valuation Report along with the newly required disclosure information as required by the State.

If you should have any questions concerning the above, please do not hesitate to contact us.

Sincerest regards,

A handwritten signature in black ink that reads "L. F. Wilson". The signature is written in a cursive, flowing style.

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

Enclosures

cc: Mr. Harry L. Bethel, Chairman

RETIREMENT SYSTEM FOR GENERAL EMPLOYEES OF THE UTILITY BOARD OF THE CITY OF KEY WEST

ACTUARIAL VALUATION AS OF January 1, 2017

This Valuation Determines the Annual Contribution for the System Year January 1, 2017 through December 31, 2017 to be Paid in the Calendar Year Ending December 31, 2017

April 17, 2017



**Retirement System for General Employees of the
Utility Board of the City of Key West**

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April 17, 2017

Board of Trustees
c/o Mr. Jack Wetzler
Assistant General Manager & C.F.O.
Utility Board of the City of Key West
Post Office Drawer 6100
Key West, Florida 33040

Re: Retirement System for General Employees of the Utility Board of the City of Key West

Dear Trustees:

We are pleased to present our January 1, 2017 Actuarial Valuation for the Retirement System for General Employees of the Utility Board of the City of Key West (*System*). The purpose of this report is to indicate appropriate contribution levels, comment on the actuarial stability of the System and to satisfy State requirements. Gabriel, Roeder, Smith & Company (*GRS*), as System actuary, is authorized by the Board of Trustees to prepare an annual actuarial valuation under Section 8.04(f) of the System.

This report consists of this commentary, detailed Tables I through XV, and the State Required Exhibit on Table XVI. The Tables contain basic System cost figures plus significant details on the benefits, liabilities and experience of the System. We suggest you thoroughly review the report at your convenience and contact us with any questions that may arise.

Pension System Costs

The minimum payment consists of payment of annual normal costs and amortization of the components of the unfunded actuarial accrued liability over various periods as prescribed by law. The minimum payment for fiscal year ending December 31, 2017 is **40.8% (\$3,946,896)** of covered payroll. The figure in parentheses is the System cost expressed as the percentage of covered annual payroll applied to projected covered payroll as of January 1, 2017 (\$9,667,989).

Changes in Actuarial Assumptions, Methods and System Benefits

System benefits remain unchanged from the System benefits considered for the January 1, 2016 Actuarial Valuation. System benefits are summarized on Table IX.

The pre-retirement mortality assumption has been updated to the use of the pre-retirement mortality assumption used by the Florida Retirement System (FRS) in the July 1, 2016 AFRS

Actuarial Valuation consistent with Florida Statutes, Chapter 2015-157. The remaining actuarial assumptions and methods are unchanged from the January 1, 2016 Actuarial Valuation. The actuarial assumptions and methods are outlined on Table X.

Comparison of January 1, 2016 and January 1, 2017 Valuation Results

Table II of our report provides information of a comparative nature. The right columns of the Table indicate the costs as calculated for January 1, 2016. The center columns indicate the costs as calculated for January 1, 2017, prior to the update in actuarial assumptions. The left columns indicate the costs as calculated for January 1, 2017, after the update in actuarial assumptions.

Comparing the center and right columns of Table II shows the effect of System experience during the year. The number of active participants and covered payroll increased by approximately 2% and 5%, respectively. Total normal cost and unfunded actuarial accrued liability decreased both as a percentage of covered payroll and as a dollar amount. The minimum funding requirement decreased as a percentage of covered payroll but increased as a dollar amount.

Comparing the center and left columns of Table II shows the effect of the update of the actuarial assumption (mortality). The normal cost and minimum funding requirement decreased both as a percentage of covered payroll and as a dollar amount. The unfunded actuarial accrued liability increased both as a percentage of covered payroll and as a dollar amount.

The present value of vested accrued benefits exceeds the market value of System assets. The Vested Benefit Security Ratio is 78.8% (78.6% prior to the update in actuarial assumptions). This is an increase from 78.1% as of January 1, 2016. The Vested Benefit Security Ratio is based upon the market value of assets.

Actuarial Gains (Losses)

The System experienced an actuarial gain of **\$1,142,096** for 2016. Our Actuarial Valuation report tracks the actual experience in three areas that are very significant in determining whether a gain or loss occurs. Table XIV presents compensation experience, tracks employee turnover and provides information on investment return.

Table XIV provides statistics on increases in pay enjoyed by active System Members. During 2016, pay increases to active Members averaged 2.0%. Pay increases were below the average pay increase assumption of 5.6%. This suggests pay increases were generally a source of actuarial gain this year. Three, five and ten-year average annual pay increases are 4.6%, 4.1% and 5.2%, respectively.

In addition, Table XIV provides statistics for active System Members terminating service in comparison to the number of active System Members who were assumed to terminate under the withdrawal assumptions. Member turnover was 30% of expected turnover during 2016. This suggests employee turnover was generally an offsetting source of actuarial loss this year. Three, five and ten-year average termination experience is 70%, 70% and 70% of expected turnover, respectively.

Table XIV also provides comparative statistics on the investment experience for the System. During 2016, the System experienced a smoothed actuarial value return of approximately 7.9%. This return exceeded the 7.5% anticipated rate of return. Smoothed investment return was an additional source of actuarial gain this year. The average smoothed actuarial value rate of return over the last three, five and ten-years is 8.7%, 8.5% and 6.0%, respectively. The corresponding one, three, five and ten-year average market value rates of return are 6.6%, 3.6%, 8.8% and 5.5%, respectively.

Member Census and Financial Data

The Utility Board submitted the Member census data as of January 1, 2017 used for this valuation to us. This information contains name, Social Security number, date of birth, date of hire, current rate of pay and actual salary paid in 2016. Dates of termination and retirement are provided where applicable. The Utility Board updated information on inactive participants including retirees, beneficiaries and vested terminees. Name, Social Security number and January 1, 2017 monthly benefit payment were provided for these members.

The Utility Board also supplied information on the assets of the System as of December 31, 2016.

We do not audit the Member census data and asset information that is provided to us; however, we perform certain reasonableness checks. The System is responsible for the accuracy of the data.

Summary

In our opinion the benefits currently provided for under the System will be sufficiently funded through the payment of the amount as indicated in this and future Actuarial Valuation reports. We will continue to update you on the future payment requirements for the System through our actuarial reports. These reports will also continue to monitor the future experience of the System.

The actuarial assumptions used in this Actuarial Valuation are as adopted by the Board of Trustees. The demographic actuarial assumptions are based on the results of an actuarial experience study for the five-year period ended December 31, 2012. Each assumption represents an estimate of future System experience.

If all actuarial assumptions are met and if all future minimum required contributions are paid, System assets will be sufficient to pay all System benefits, future contributions are expected to remain relatively stable as a percentage of payroll and the funded status of the plan is expected to improve. System minimum required contributions are determined in compliance with the requirements of the Florida Protection of Public Employee Retirement Benefits Act with normal cost determined as a level percent of covered payroll and a level percent amortization payment using an initial amortization period of 30 years.

The Unfunded Actuarial Accrued Liability (UAAL) may not be appropriate for assessing the sufficiency of System assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions. The UAAL would be different if it reflected the market value of assets rather than the actuarial value of assets.

The Unfunded Actuarial Present Value of Vested Accrued Benefits and the corresponding Vested Benefit Security Ratio may be appropriate for assessing the sufficiency of System assets to meet the estimated cost of settling benefit obligations but may not be appropriate for assessing the need for or the amount of future contributions. The Unfunded Actuarial Present Value of Vested Accrued Benefits and the corresponding Vested Benefit Security Ratio are based upon the market value of assets.

The GASB Net Pension Liability and System Fiduciary Net Position as a Percentage of Total Pension Liability may not be appropriate for assessing the sufficiency of System assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions. The GASB Net Pension Liability and System Fiduciary Net Position as a Percentage of Total Pension Liability are based upon the market value of assets.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

This report should not be relied on for any purpose other than the purpose described in the primary communication. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the System as of the valuation date.

Board of Trustees

April 17, 2017

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All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

This report may be provided to parties other than the Board only in its entirety and only with the permission of an approved representative of the Board.


The signing actuaries are independent of the System and Utility Board.

The undersigned are Members of the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. We are available to respond to any questions with regards to matters covered in this report.

Very truly yours,



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



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

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Summary of Retirement Plan Costs

	Current Assumptions				Current Assumptions		Prior Assumptions		Total	
	Hired after May 31, 2010 January 1, 2017		Hired before June 1, 2010 January 1, 2017		Total January 1, 2017		Total January 1, 2017		Total January 1, 2016	
	<u>Cost</u>	<u>% of</u>	<u>Cost</u>	<u>% of</u>	<u>Cost</u>	<u>% of</u>	<u>Cost</u>	<u>% of</u>	<u>Cost</u>	<u>% of</u>
	<u>Data</u>	<u>Payroll</u>	<u>Data</u>	<u>Payroll</u>	<u>Data</u>	<u>Payroll</u>	<u>Data</u>	<u>Payroll</u>	<u>Data</u>	<u>Payroll</u>
A. Participant Data Summary (Table III)										
1. Active Employees	29	N/A	97	N/A	126	N/A	126	N/A	123	N/A
2. Terminated Vested	0	N/A	26	N/A	26	N/A	26	N/A	26	N/A
3. Receiving Benefits	0	N/A	180	N/A	180	N/A	180	N/A	181	N/A
4. Total Participants	29	N/A	303	N/A	332	N/A	332	N/A	330	N/A
5. Annual Payroll of Active Employees	\$ 1,929,311	100.0%	\$ 7,738,678	100.0%	\$ 9,667,989	100.0%	\$ 9,667,989	100.0%	\$ 9,247,710	100.0%
B. Total Normal Costs										
1. Age Retirement Benefits	\$ 158,646	8.2%	\$ 1,188,220	15.4%	\$ 1,346,866	13.9%	\$ 1,315,367	13.6%	\$ 1,308,746	14.2%
2. Deferred Vesting Benefits	21,233	1.1%	134,661	1.7%	155,894	1.6%	155,187	1.6%	151,181	1.6%
3. Death Benefits	14,024	0.7%	69,251	0.9%	83,275	0.9%	175,239	1.8%	169,305	1.8%
4. Disability Benefits	6,741	0.3%	55,028	0.7%	61,769	0.6%	61,121	0.6%	60,014	0.6%
5. Subtotal	\$ 200,644	10.4%	\$ 1,447,160	18.7%	\$ 1,647,804	17.0%	\$ 1,706,914	17.7%	\$ 1,689,246	18.3%
6. Expenses	N/A		N/A		66,981	0.7%	66,981	0.7%	88,540	1.0%
7. Total Annual Normal Costs	N/A		N/A		\$ 1,714,785	17.7%	\$ 1,773,895	18.3%	\$ 1,777,786	19.2%

Retirement System for General Employees of
the Utility Board of the City of Key West

Summary of Retirement Plan Costs

	Current Assumptions		Prior Assumptions		January 1, 2016	
	January 1, 2017	January 1, 2017	January 1, 2017	January 1, 2017	January 1, 2016	January 1, 2016
	<u>Cost</u>	<u>% of</u>	<u>Cost</u>	<u>% of</u>	<u>Cost</u>	<u>% of</u>
	<u>Data</u>	<u>Payroll</u>	<u>Data</u>	<u>Payroll</u>	<u>Data</u>	<u>Payroll</u>
C. Total Actuarial Accrued Liability						
1. Age Retirement Benefits Active Employees	\$ 36,453,908	377.1%	\$ 36,184,526	374.3%	\$ 35,437,804	383.2%
2. Deferred Vested Benefits Active Employees	144,525	1.5%	158,934	1.6%	153,515	1.7%
3. Death Benefits Active Employees	561,273	5.8%	732,687	7.6%	720,442	7.8%
4. Disability Benefits Active Employees	860,707	8.9%	831,069	8.6%	789,996	8.5%
5. Retired or Terminated Vested Participants Receiving Benefits	63,807,222	660.0%	63,807,222	660.0%	61,085,299	660.5%
6. Terminated Vested Participants Entitled to Future Benefits	2,032,022	21.0%	2,032,022	21.0%	1,883,191	20.4%
7. Deceased Participants Whose Beneficiaries are Receiving Benefits	6,249,854	64.6%	6,249,854	64.6%	6,223,751	67.3%
8. Disabled Participants Receiving Benefits	1,808,865	18.7%	1,808,865	18.7%	1,997,558	21.6%
9. Total Actuarial Accrued Liability	\$ 111,918,376	1157.6%	\$ 111,805,179	1156.4%	\$ 108,291,556	1171.0%
D. Market Value of Assets (Table IV)	\$ 80,916,572	837.0%	\$ 80,916,572	837.0%	\$ 77,361,154	836.5%
E. Smoothed Actuarial Value of Assets (Table V)	\$ 84,366,073	872.6%	\$ 84,366,073	872.6%	\$ 79,640,645	861.2%
F. Unfunded Actuarial Accrued Liability (C-E)	\$ 27,552,303	285.0%	\$ 27,439,106	283.8%	\$ 28,650,911	309.8%
G. Minimum Required Contribution						
1. Total Normal Cost	\$ 1,714,785	17.7%	\$ 1,773,895	18.3%	\$ 1,777,786	19.2%
2. Amortization of Unfunded Liability	2,089,452	21.6%	2,081,761	21.5%	2,049,311	22.2%
3. Interest Adjustment	142,659	1.5%	144,587	1.5%	143,516	1.6%
4. Total Payment	\$ 3,946,896	40.8%	\$ 4,000,243	41.4%	\$ 3,970,613	42.9%
H. Actuarial Gain / (Loss) (Table VI)	\$ 1,142,096	11.8%	\$ 1,142,096	11.8%	\$ (295,601)	(3.2%)

Retirement System for General Employees of
the Utility Board of the City of Key West

Summary of Retirement Plan Costs

	Current Assumptions January 1, 2017		Prior Assumptions January 1, 2017		January 1, 2016	
	<u>Cost Data</u>	<u>% of Payroll</u>	<u>Cost Data</u>	<u>% of Payroll</u>	<u>Cost Data</u>	<u>% of Payroll</u>
I. Actuarial Present Value of Vested Accrued Benefits						
1. Retired, Terminated Vested, Beneficiaries, Disabled Receiving Benefits	\$ 71,865,941	743.3%	\$ 71,865,941	743.3%	\$ 69,306,608	749.4%
2. Terminated Vested Participants Entitled to Future Benefits	2,032,022	21.0%	2,032,022	21.0%	1,883,191	20.4%
3. Active Participants Entitled to Future Benefits	28,828,701	298.2%	29,097,195	301.0%	27,920,904	301.9%
4. Total Actuarial Present Value of Vested Accrued Benefits	\$ 102,726,664	1062.5%	\$ 102,995,158	1065.3%	\$ 99,110,703	1071.7%
J. Unfunded Actuarial Present Value of Vested Accrued Benefits (I.4 - D., not less than zero)	\$ 21,810,092	225.6%	\$ 22,078,586	228.4%	\$ 21,749,549	235.2%
K. Vested Benefit Security Ratio (D. ÷ I.4.)	78.8%	N/A	78.6%	N/A	78.1%	N/A

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Comparison of Cost Data of January 1, 2016 and January 1, 2017 Valuations

	Current Assumptions January 1, 2017		Prior Assumptions January 1, 2017		January 1, 2016	
	Cost Data	% of Annual Compensation	Cost Data	% of Annual Compensation	Cost Data	% of Annual Compensation
A. Participants						
1. Active Employees	126	N/A	126	N/A	123	N/A
2. Terminated Vested	26	N/A	26	N/A	26	N/A
3. Receiving Benefits	180	N/A	180	N/A	181	N/A
4. Annual Payroll of Active Employees	\$ 9,667,989	100.0%	\$ 9,667,989	100.0%	\$ 9,247,710	100.0%
B. Total Normal Costs	\$ 1,714,785	17.7%	\$ 1,773,895	18.3%	\$ 1,777,786	19.2%
C. Total Actuarial Accrued Liability	\$ 111,918,376	1157.6%	\$ 111,805,179	1156.4%	\$ 108,291,556	1171.0%
D. Smoothed Actuarial Value of Assets	\$ 84,366,073	872.6%	\$ 84,366,073	872.6%	\$ 79,640,645	861.2%
E. Unfunded Actuarial Accrued Liability	\$ 27,552,303	285.0%	\$ 27,439,106	283.8%	\$ 28,650,911	309.8%
F. Net Minimum Funding Payment	\$ 3,946,896	40.8%	\$ 4,000,243	41.4%	\$ 3,970,613	42.9%
G. Actuarial Gain / (Loss)	\$ 1,142,096	11.8%	\$ 1,142,096	11.8%	\$ (295,601)	(3.2%)
H. Unfunded Actuarial Present Value of Vested Accrued Benefits	\$ 21,810,092	225.6%	\$ 22,078,586	228.4%	\$ 21,749,549	235.2%
I. Vested Benefit Security Ratio	78.8%	N/A	78.6%	N/A	78.1%	N/A

Table III

**Retirement System for General Employees of
the Utility Board of the City of Key West**

**Characteristics of Participants in
Actuarial Valuation as of January 1, 2017**

A. Active Plan Participants Summary

1. Active participants as of beginning of prior year	123
2. New entrants during prior year	9
3. Exits during prior year	(6)
4. Active participants as of beginning of year	126
5. Active participants fully vested	73
6. Active participants partially vested	25
7. Active participants non-vested	28
8. Annual payroll of active participants	\$ 9,667,989
9. Average pay	\$ 76,730
10. Average hire age	32.26 years
11. Average attained age	45.40 years
12. Percent female	34.1%

B. Characteristics of Inactive Participants

1. Inactives as of beginning of prior year	207
2. Newly inactive during prior year	6
3. Exits during prior year	(7)
4. Inactives as of beginning of year	206
5. Age retirees	147
6. Projected annual benefits for age retirees	\$ 4,986,081
7. Beneficiaries of deceased participants	25
8. Projected annual benefits for beneficiaries	\$ 548,284
9. Disabled participants receiving benefits	8
10. Projected annual benefits for disabled participants	\$ 170,006
11. Terminated vested due deferred benefits	26
12. Projected annual benefits for terminated vested participants	\$ 226,933

Table IV

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Statement of Assets as of January 1, 2017 *

<u>Assets</u>	<u>Market Value</u>
<u>Investments at Market Value</u>	
Cash and Cash Equivalents	\$ 1,895,708
Bonds	10,307,918
Mutual Funds	
- Asset Allocation Fund	4,177,965
- Vanguard Domestic Stock Mutual Fund	8,252,086
- Vanguard International Stock Mutual Fund	4,369,003
- Global Bond Mutual Fund	3,766,353
- International Growth Mutual Fund	4,371,043
International Equities	0
Common Stocks	35,355,688
Real Estate	7,814,956
Total Investments	<u>\$ 80,310,720</u>
<u>Receivables</u>	
Accrued Interest	\$ 84,080
Pending Trades	170,473
Utility Board Contributions	161,682
Miscellaneous	588
Total Receivables	<u>\$ 416,823</u>
<u>Other - Prepaid Benefits and Expenses</u>	<u>\$ 456,269</u>
<u>Liabilities</u>	
Accrued Benefits and Expenses	\$ 92,282
Pending Trades	174,958
Total Liabilities	<u>\$ 267,240</u>
<u>Net Assets Available For Benefits</u>	<u>\$ 80,916,572</u>

* As reported on financial statements prepared by the Utility Board.

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Reconciliation of Plan Assets*

A. <u>Market Value of Assets as of January 1, 2016</u>	\$	77,361,154
B. <u>Receipts During Year</u>		
1. Utility Board contributions	\$	3,986,227
2. Interest, dividends and other		
(a) Dividends, interest and other	\$	1,965,904
(b) Investment fees		461,180
(c) Net dividends, interest and other [(a)-(b)]	\$	<u>1,504,724</u>
3. Net appreciation / (depreciation)	\$	<u>3,585,363</u>
4. Net receipts during year	\$	9,076,314
C. <u>Disbursements During Year</u>		
1. Pension benefit payments	\$	5,462,925
2. Contribution refunds		0
3. Administrative expenses paid		<u>57,971</u>
4. Total disbursements during year	\$	5,520,896
D. <u>Market Value of Assets as of December 31, 2016</u>	\$	80,916,572

* As reported on financial statements prepared by the Utility Board.

Retirement System for General Employees of
the Utility Board of the City of Key West

Development of Smoothed Actuarial Value of Assets as of December 31

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Preliminary smoothed actuarial value from prior year	\$ 75,345,754	\$ 79,640,645	\$ 84,366,073			
B. Market value end of year	77,361,154	80,916,572				
C. Market value beginning of year	79,365,980	77,361,154	80,916,572			
D. Non-investment net cash flow	(1,454,274)	(1,534,669)				
E. Investment return						
1. Total market value return: B. - C. - D.	(550,552)	5,090,087				
2. Amount for immediate recognition (7.5%)	5,897,913	5,744,536				
3. Amount for phased-in recognition: E.1. - E.2.	(6,448,465)	(654,449)				
F. Phased-in recognition of investment return						
1. Current year: 20% of E.3.	(1,289,693)	(130,890)				
2. First prior year	(359,272)	(1,289,693)	(130,890)			
3. Second prior year	1,661,682	(359,272)	(1,289,693)	(130,890)		
4. Third prior year	633,734	1,661,682	(359,272)	(1,289,693)	(130,890)	
5. Fourth prior year	(795,199)	633,734	1,661,682	(359,273)	(1,289,693)	(130,889)
6. Total phased-in recognition of investment return	<u>(148,748)</u>	<u>515,561</u>	<u>(118,173)</u>	<u>(1,779,856)</u>	<u>(1,420,583)</u>	<u>(130,889)</u>
G. Smoothed actuarial value end of year						
1. Preliminary smoothed actuarial value end of year:						
A. + D. + E.2. + F.6.	79,640,645	84,366,073				
2. Upper corridor limit: 120% of B.	92,833,385	97,099,886				
3. Lower corridor limit: 80% of B.	61,888,923	64,733,258				
4. Smoothed actuarial value end of year:						
G.1., not more than G.2., nor less than G.3.	79,640,645	84,366,073				
H. Difference between market value and smoothed actuarial v	(2,279,491)	(3,449,501)				
I. Smoothed actuarial value rate of return	7.7%	7.9%				
J. Market value rate of return	(0.7%)	6.6%				

Table VI

**Retirement System for General Employees of
the Utility Board of the City of Key West**

**Actuarial Gain / (Loss) for
System Year Ended December 31, 2016**

A. Derivation of Actuarial Gain / (Loss)

1. Normal cost previous valuation	\$ 1,777,786
2. Unfunded actuarial accrued liability previous valuation	28,650,911
3. Utility Board contributions	3,986,227
4. Interest on:	
(a) Normal cost	\$ 133,334
(b) Unfunded actuarial accrued liability	2,148,818
(c) Utility Board contributions	143,420
(d) Net total: (a) + (b) - (c)	\$ 2,138,732
5. Increase / (decrease) in unfunded actuarial accrued liability due to assumption change	\$ 113,197
6. Expected unfunded actuarial accrued liability current year: (1. + 2. - 3. + 4. + 5.)	\$ 28,694,399
7. Actual unfunded actuarial accrued liability current year	27,552,303
8. Actuarial gain / (loss): (6. - 7.)	\$ 1,142,096

B. Approximate Portion of Gain / (Loss)
due to Investments

1. Smoothed actuarial value of assets previous year	\$ 79,640,645
2. Contributions during year	3,986,227
3. Benefits and administrative expenses during year	5,520,896
4. Expected appreciation for period	5,909,435
5. Expected smoothed actuarial value of assets current year: (1. + 2. - 3. + 4.)	\$ 84,015,411
6. Actual smoothed actuarial value of assets current year	\$ 84,366,073
7. Approximate gain / (loss) due to investments: (6. - 5.)	\$ 350,662

C. Approximate Portion of Gain / (Loss)
due to Liabilities: A.8. - B.7.

\$ 791,434

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Amortization of Unfunded Actuarial Accrued Liability

A. Amortization of Unfunded Accrued Liability

<u>Date</u>	<u>Unfunded Liability</u>	<u>Amortization Payment</u>
January 1, 2017	\$ 27,552,303	\$ 2,089,452
January 1, 2018	\$ 27,372,565	\$ 2,120,793
January 1, 2019	\$ 27,145,655	\$ 2,152,604
January 1, 2020	\$ 26,867,530	\$ 2,184,895
January 1, 2021	\$ 26,533,833	\$ 2,217,670
...		
...		
January 1, 2047	\$ 0	\$ 0

B. Covered Payroll History

<u>Date</u>	<u>Covered Payroll</u>	<u>Annual Increase</u>
January 1, 2017	\$ 9,667,989	4.5%
January 1, 2016	\$ 9,247,710	2.2%
January 1, 2015	\$ 9,046,826	(1.9%)
January 1, 2014	\$ 9,226,528	(3.5%)
January 1, 2013	\$ 9,558,105	(1.1%)
January 1, 2012	\$ 9,667,272	(3.4%)
January 1, 2011	\$ 10,005,398	(0.2%)
January 1, 2010	\$ 10,024,867	2.5%
January 1, 2009	\$ 9,782,010	6.3%
January 1, 2008	\$ 9,202,549	10.3%
January 1, 2007	\$ 8,343,673	N/A

Ten-Year Average Annual Increase 1.5%

Table VIII

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Accounting Disclosure Exhibit

	Current Assumptions 01/01/2017	Prior Assumptions 01/01/2017	01/01/2016
I. <u>Number of System Members</u>			
1. Retirees and beneficiaries receiving benefits	180	180	181
2. Terminated System members entitled to but not yet receiving benefits	26	26	26
3. Active System members	126	126	123
4. Total	332	332	330
II. <u>Financial Accounting Standards Board Allocation</u> <u>As of January 1, 2017</u>			
A. <u>Statement of Accumulated System Benefits</u>			
1. Actuarial present value of accumulated vested System benefits			
a. Participants currently receiving benefits	\$ 71,865,941	\$ 71,865,941	\$ 69,306,608
b. Other participants	30,860,723	31,129,217	29,804,095
c. Total	\$ 102,726,664	\$ 102,995,158	\$ 99,110,703
2. Actuarial present value of accumulated non-vested System benefits	\$ 889,500	\$ 1,066,978	\$ 1,177,782
3. Total actuarial present value of accumulated System benefits	\$ 103,616,164	\$ 104,062,136	\$ 100,288,485
B. <u>Statement of Change in Accumulated System Benefits</u>			
1. Actuarial present value of accumulated System benefits as of January 1, 2016	\$ 100,288,485		
2. Increase / (decrease) during year attributable to:			
a. System amendment	\$ 0		
b. Change in actuarial assumptions	(445,972)		
c. Benefits paid	(5,462,925)		
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period	9,236,576		
e. Net increase	\$ 3,327,679		
3. Actuarial present value of accumulated System benefits as of January 1, 2017	\$ 103,616,164		
C. <u>Significant Matters Affecting Calculations</u>			
1. Assumed rate of return used in determining actuarial present values	7.5%		
2. Change in System provisions	None.		
3. Change in actuarial assumptions	See Table X, Item L.		

Retirement System for General Employees of
the Utility Board of the City of Key West

Accounting Disclosure Exhibit

III. Net Pension Liability and Related Ratios (GASB No. 67 & No. 68)

Measurement date	Projected 12/31/2017 *	12/31/2016	12/31/2015	12/31/2014
A. <u>Total Pension Liability</u>				
Service Cost	\$ 1,647,804	\$ 1,689,246	\$ 1,615,566	\$ 1,688,924
Interest	8,299,952	8,043,700	7,503,157	7,233,694
Benefit Changes	0	0	0	0
Difference Between Actual and Expected Experience	(756,398)	465,515	(399,487)	(552,616)
Assumption Changes	113,197	2,800,797	0	3,883,996
Benefit Payments, including Refunds of Member Contributions	(5,800,315)	(5,462,925)	(5,040,021)	(4,673,833)
Net Change in Total Pension Liability	\$ 3,504,240	\$ 7,536,333	\$ 3,679,215	\$ 7,580,165
Total Pension Liability (TPL) - (beginning of year)	112,561,577	105,025,244	101,346,029	93,765,864
Total Pension Liability (TPL) - (end of year)	<u>\$ 116,065,817</u>	<u>\$ 112,561,577</u>	<u>\$ 105,025,244</u>	<u>\$ 101,346,029</u>
B. <u>System Fiduciary Net Position</u>				
Contributions - System Sponsor	\$ 3,946,896	\$ 3,986,227	\$ 3,653,199	\$ 3,511,645
Contributions - Member	0	0	0	0
Net Investment Income	5,996,728	5,090,087	(550,552)	3,909,304
Benefit Payments, including Refunds of Member Contributions	(5,800,315)	(5,462,925)	(5,040,021)	(4,673,833)
Administrative Expenses	(66,981)	(57,971)	(67,452)	(75,519)
Other	0	0	0	0
Net Change in System Fiduciary Net Position	\$ 4,076,328	\$ 3,555,418	\$ (2,004,826)	\$ 2,671,597
System Fiduciary Net Position - (beginning of year)	80,916,572	77,361,154	79,365,980	76,694,383
System Fiduciary Net Position - (end of year)	<u>\$ 84,992,900</u>	<u>\$ 80,916,572</u>	<u>\$ 77,361,154</u>	<u>\$ 79,365,980</u>
C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u>	\$ 31,072,917	\$ 31,645,005	\$ 27,664,090	\$ 21,980,049
D. <u>System Fiduciary Net Position as a Percentage of TPL: (B) / (A)</u>	73.23 %	71.89 %	73.66 %	78.31 %
E. <u>Covered Employee Payroll</u> **	\$ 9,667,989	\$ 9,291,906	\$ 9,319,386	\$ 8,958,281
F. <u>NPL as a Percentage of Covered Employee Payroll: (C) / (E)</u>	321.40 %	340.57 %	296.84 %	245.36 %
G. <u>Notes to Schedule:</u>				
Valuation Date	01/01/2017	01/01/2016	01/01/2015	01/01/2014
Reporting Date (GASB No. 68)	09/30/2018	09/30/2017	09/30/2016	09/30/2015

Update procedures used to roll forward TPL to the measurement dates.

See Notes to Schedule of Contributions for a history of assumption changes and benefit changes.

* Projected - actual amounts will be available after System year end

** Reported payroll on which contributions to the System are based as provided under GASB No. 82

**Table VIII
(Cont'd)**

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Accounting Disclosure Exhibit

IV. Schedule of Employer Contributions (GASB No. 67)

<u>Fiscal Year Ended 12/31</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll ¹</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2007	\$ 2,462,847	\$ 2,462,847	\$ 0	\$ 8,538,661	28.84%
2008	2,537,303	2,537,303	0	9,104,074	27.87%
2009	3,318,721	3,318,721	0	9,790,423	33.90%
2010	3,045,252	3,103,795	(58,543)	9,729,240	31.90%
2011	3,174,884	3,174,884	0	9,562,205	33.20%
2012	3,356,361	3,356,361	0	9,312,610	36.04%
2013	3,628,209	3,628,209	0	9,162,598	39.60%
2014	3,511,645	3,511,645	0	8,958,281	39.20%
2015	3,653,199	3,653,199	0	9,319,386	39.20%
2016	3,986,227	3,986,227	0	9,291,906	42.90%
2017 ²	3,946,896	3,946,896	0	9,667,989	40.82%

¹ Reported payroll on which contributions to the System are based as provided under GASB No. 82

² Projected - actual amounts will be available after fiscal year end

**Table VIII
(Cont'd)**

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Accounting Disclosure Exhibit

V. Schedule of Employer Contributions (GASB No. 68)

<u>Fiscal Year End 9/30</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll¹</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2007	\$ 2,399,362	\$ 2,399,362	\$ 0	\$ 8,330,739	28.80%
2008	2,518,689	2,518,689	0	8,962,721	28.10%
2009	3,123,367	3,123,367	0	9,618,836	32.47%
2010	3,113,619	3,172,162	(58,543)	9,744,536	32.55%
2011	3,142,476	3,142,476	0	9,603,964	32.72%
2012	3,310,992	3,310,992	0	9,375,009	35.32%
2013	3,560,247	3,560,247	0	9,200,101	38.70%
2014	3,540,786	3,540,786	0	9,009,360	39.30%
2015	3,617,811	3,617,811	0	9,229,110	39.20%
2016	3,902,970	3,902,970	0	9,298,776	41.97%
2017 ²	3,956,729	3,956,729	0	9,573,968	41.33%

¹ Based on prorated calendar year pay

² Projected - actual amounts will be available after fiscal year end

Retirement System for General Employees of
the Utility Board of the City of Key West

Accounting Disclosure Exhibit

VI. Notes to Schedule of Contributions (GASB No. 67 & No. 68)

Valuation Date: Actuarially determined contributions are calculated using a valuation date as of the beginning of the plan year (each January 1st).

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age
Amortization Method	Level Percentage of Pay, Closed
Amortization Period	30 years
Asset Valuation Method	5-year smoothed market
Inflation	2.75%
Salary Increases	4.5% - 10.0%
Investment Rate of Return	7.5%
Payroll Growth Assumption	3.0% per year, but limited to average annual increase over most recent ten years (1.9%).
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	For healthy male participants, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.
Cost-of-Living Increases	3.0%

Other Information:

Benefit Changes

2011: New benefit structure added for employees hired on or after June 1, 2010 including career average earnings and 2.0% multiplier. 2009: Normal retirement eligibility updated to attainment of age 60 and completion of 10 years of credited service from attainment of age 60 if member enters System after November 13, 2008; pre-retirement death benefit for child beneficiaries end date extended from 21 years of age to 25 years of age provided the child is a full-time student in college or disabled under Social Security; actuarially equivalent joint and survivor with pop-up optional form of payment added. 2007: Service required for eligibility for disability benefits increased from 5 years of credited service to 10 years of credited service.

Retirement System for General Employees of
the Utility Board of the City of Key West

Accounting Disclosure Exhibit

VI. Notes to Schedule of Contributions (GASB No. 67 & No. 68) (cont'd)

Assumption Changes

2016: Mortality rates updated. 2014: Investment return updated from 8.0% to 7.5%; withdrawal, salary increase and retirement rates updated. 2009: Mortality, withdrawal, salary increase and retirement rates updated; assumption for child beneficiaries added for pre-retirement death benefits.

VII. Discount Rate (GASB No. 67 & No. 68)

A discount rate of 7.5% was used to measure the TPL. This discount rate was based on the expected rate of return on System investments of 7.5%. The projection of cash flows used to determine this discount rate assumed member contributions will be made at the current contribution rate and employer contributions will be made at rates equal to the difference between actuarially determined current contribution rates and the member contribution rate. Based on these assumptions, the pension System's fiduciary net position was projected to be available to make all projected future expected benefit payments of current System members. Therefore, the long-term expected rate of return on System investments was applied to all periods of projected benefit payments to determine the TPL.

VIII. Sensitivity of the NPL to the Discount Rate Assumption (GASB No. 67 & No. 68)

Measurement date: December 31, 2016

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Discount Rate	6.5%	7.5%	8.5%
NPL	\$ 46,079,963	\$ 31,645,005	\$ 19,766,204

Measurement date: December 31, 2017 *

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Discount Rate	6.5%	7.5%	8.5%
NPL	\$ 45,849,884	\$ 31,072,917	\$ 18,902,834

* Projected - actual amounts will be available after System year end

Retirement System for General Employees of
the Utility Board of the City of Key West

Accounting Disclosure Exhibit

IX. Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions - Reporting Date (GASB No. 68)

Pension Expense for Fiscal Year Ending September 30, 2017: \$ 7,764,554

Summary of Outstanding Deferred Inflows and Outflows of Resources as of September 30, 2017

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between actual and expected experience on liabilities	\$ 315,349	\$ 200,046
Changes of assumptions or other inputs	2,250,406	0
Net difference between projected and actual earnings on System investments	<u>5,111,183</u>	<u>0</u>
Total	<u>\$ 7,676,938</u>	<u>\$ 200,046</u>

Projected Deferred Outflows for Utility Board Contributions to Be Recognized in Pension Expense for Fiscal Year Ending September 30, 2018: \$ 2,960,172

Summary of Deferred Outflows and Inflows of Resources that will be Recognized in the Pension Expense in Future Years

<u>Year ending 30-Sep</u>	<u>Amount</u>
2018	\$ 3,011,517
2019	2,808,538
2020	1,525,948
2021	130,889
2022	0
Thereafter	0

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Accounting Disclosure Exhibit

The following information is not required to be disclosed but is provided for informational purposes.

X. Components of Pension Expense (GASB No. 68)

Measurement Date	Projected			
	<u>12/31/2017 *</u>	<u>12/31/2016</u>	<u>12/31/2015</u>	<u>12/31/2014</u>
Service Cost	\$ 1,647,804	\$ 1,689,246	\$ 1,615,566	\$ 1,688,924
Interest on Total Pension Liability	8,299,952	8,043,700	7,503,157	7,233,694
Current-Period Benefit Changes	0	0	0	0
Contributions - Member	0	0	0	0
Projected Earnings on System Investments	(5,996,728)	(5,744,536)	(5,897,913)	(5,705,665)
Administrative Expenses	66,981	57,971	67,452	75,519
Other Changes in System Fiduciary Net Position	0	0	0	0
Recognition of Beginning Deferred Outflows / (Inflows) due to Liabilities	1,036,753	1,938,318	884,669	1,009,509
Recognition of Beginning Deferred Outflows / (Inflows) due to Assets	<u>1,779,855</u>	<u>1,779,855</u>	<u>1,648,965</u>	<u>359,272</u>
Total Pension Expense	<u>\$ 6,834,617</u>	<u>\$ 7,764,554</u>	<u>\$ 5,821,896</u>	<u>\$ 4,661,253</u>

* Projected - actual amounts will be available after measurement date

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Accounting Disclosure Exhibit

The following information is not required to be disclosed but is provided for informational purposes.

XI. Recognition of Deferred Outflows and (Inflows) Due to Liabilities - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows due to Differences Between Actual and Expected Experience on Liabilities

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 12/31/2016	Recognition Amount for 2016	Balance as of 12/31/2016
2014	\$ 0	3.3	0.3	\$ 0	\$ 0
2015	\$ 0	3.2	1.2	\$ 0	\$ 0
2016	\$ 465,515	3.1	2.1	\$ 150,166	\$ 315,349
TOTAL				\$ 150,166	\$ 315,349

Recognition of Deferred (Inflows) due to Differences Between Actual and Expected Experience on Liabilities

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 12/31/2016	Recognition Amount for 2016	Balance as of 12/31/2016
2014	\$ (552,616)	3.3	0.3	\$ (167,459)	\$ (50,239)
2015	\$ (399,487)	3.2	1.2	\$ (124,840)	\$ (149,807)
2016	\$ 0	3.1	2.1	\$ 0	\$ 0
TOTAL				\$ (292,299)	\$ (200,046)

Recognition of Deferred Outflows due to Changes of Assumptions or Other Inputs

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 12/31/2016	Recognition Amount for 2016	Balance as of 12/31/2016
2014	\$ 3,883,996	3.3	0.3	\$ 1,176,968	\$ 353,092
2015	\$ 0	3.2	1.2	\$ 0	\$ 0
2016	\$ 2,800,797	3.1	2.1	\$ 903,483	\$ 1,897,314
TOTAL				\$ 2,080,451	\$ 2,250,406

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Accounting Disclosure Exhibit

The following information is not required to be disclosed but is provided for informational purposes.

XI. Recognition of Deferred Outflows and (Inflows) Due to Liabilities - Measurement Date (GASB No. 68) (cont'd)

Recognition of Deferred (Inflows) due to Changes of Assumptions or Other Inputs

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 12/31/2016	Recognition Amount for 2016	Balance as of 12/31/2016
2014	\$ 0	3.3	0.3	\$ 0	\$ 0
2015	\$ 0	3.2	1.2	\$ 0	\$ 0
2016	\$ 0	3.1	2.1	\$ 0	\$ 0
TOTAL				\$ 0	\$ 0

XII. Recognition of Deferred Outflows / (Inflows) due to Assets - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows / (Inflows) due to Differences Between Projected and Actual Earnings on Pension Plan Investments

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 12/31/2016	Recognition Amount for 2016	Balance as of 12/31/2016
2014	\$ 1,796,361	5	2	\$ 359,272	\$ 718,545
2015	\$ 6,448,465	5	3	\$ 1,289,693	\$ 3,869,079
2016	\$ 654,449	5	4	\$ 130,890	\$ 523,559
TOTAL				\$ 1,779,855	\$ 5,111,183

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Outline of Principal Provisions of the Retirement Plan

A. Effective Date:

April 9, 1954, as amended and restated as of May 22, 2014, and further amended through Resolution No. 800 effective December 31, 2015.

B. Eligibility Requirements:

All regular and permanent employees of the Utility Board shall become members of the Plan immediately upon completion of probationary period. All regular and permanent employees of the Utility Board employed prior to October 2, 2003 became members of the Plan immediately upon employment. Elected Utility Board officials become members of the Plan immediately upon election.

C. Member Contributions:

Eliminated effective October 1, 1985 (October 1, 1983 for management members).

D. Utility Board Contributions:

The Utility Board shall contribute an amount which will be determined annually by decision of the Utility Board.

E. Credited Service:

Credited service is service performed subject to a maximum of 30 years. However, any member with more than 30 years of credited service as of November 20, 1998 will be grandfathered under the prior 35 year cap.

F. Average Final Compensation:

Average final compensation (AFC) equals the average annual pensionable earnings received during a period of the five highest years out of the last ten years of service immediately preceding retirement. Pensionable earnings are calculated using the member's base hourly rate each pay period, multiplied by 80 hours, less any hours that are considered *leave without pay*.

G. Career Average Compensation:

Career average compensation (CAC) means the average of the pensionable earnings received by a member from date of participation to termination of service. Pensionable earnings are calculated using the member's base hourly rate each pay period, multiplied by 80 hours, less any hours that are considered *leave without pay*.

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Outline of Principal Provisions of the Retirement Plan

H. Normal Retirement:

1. Eligibility:

Earlier of:

- (a) Attainment of age 60 and completion of 10 years of credited service, attainment of age 60 if a Plan Member on or before November 13, 2008.
- (b) Completion of 30 years of credited service.

2. Benefit:

For employees hired on or before May 31, 2010, 2.4% times AFC times years of credited service. For employees hired on or after June 1, 2010, 2.0% times CAC times years of credited service.

I. Early Retirement:

1. Eligibility:

Earliest of:

- (a) Attainment of age 55 with completion of 10 years of credited service.
- (b) Completion of 20 years of credited service.

2. Benefit:

Benefit as calculated for normal retirement based on credited service and AFC or CAC as of early retirement date. The member may elect to defer receipt of the benefit until the normal retirement date or alternatively, may elect a benefit reduced 5% for each year the benefit commencement date precedes normal retirement date.

J. Disability Retirement:

1. Eligibility:

Totally and permanently disabled as defined under the Plan and completion of 10 years of credited service as of date of disability.

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Outline of Principal Provisions of the Retirement Plan

2. Benefit:

For employees hired on or before May 31, 2010, benefit as calculated for normal retirement based on credited service and average basic compensation during the three years immediately preceding disability, minimum benefit of 20% of final three year average basic compensation at date of disability.

For employees hired on or after June 1, 2010, benefit as calculated for normal retirement based on credited service and CAC as of date of disability, minimum benefit of 20% of CAC at date of disability.

These benefits will be offset by any benefits payable under Workers' Compensation or similar injury or disability benefit payments.

K. Pre-Retirement Death Benefit:

In the case of death of a member while currently employed, the amount of the projected benefit which such member would have received had the member continued employment until normal retirement date at the current rate of pay shall be determined. Each Plan Member may elect survivor payment under Option 1 or Option 2, however, Option 2 is only available if the Plan Member has children under 21 years of age (25 years of age provided the child is a full-time student in college or disabled under Social Security).

Option 1, 75% of the benefit calculated above payable during the remaining lifetime of the spouse or domestic partner.

Option 2, 100% of the benefit calculated above payable until the youngest child is 21 years of age (25 years of age provided the child is a full-time student in college or disabled under Social Security). Upon attainment of age 21 (age 25 provided the child is a full-time student in college or disabled under Social Security) by the youngest child, 60% of the benefit calculated above payable during the remaining lifetime of the surviving spouse or domestic partner.

Notwithstanding the above, the minimum death benefit paid shall not be less than the accumulated employee contributions, if any, as of date of death.

L. Termination Benefit:

Upon termination prior to normal or early retirement date a member shall be entitled to choose (1) or (2) below, where:

- (1) is a refund of employee contributions plus 1% if termination with 5 years or less of service, or 3% if termination after 5 years of service; and,

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Outline of Principal Provisions of the Retirement Plan

(2) is (a) x (b), where (a) is the benefit as calculated for normal retirement, based on AFC or CAC and credited service at date of termination, and (b) is a percentage as shown on the following table:

<u>Years of Credited Service</u>	<u>Percentage</u>
Less than 5	0%
5	25%
6	30%
7	40%
8	60%
9	80%
10 or more	100%

If this option is selected, unreduced vested benefits commence as of the terminated employees' normal retirement date. Alternatively, the member may elect to commence receiving a reduced vested benefit any time after early retirement eligibility requirements are met. Such benefit is reduced by 5% for each year that commencement of benefits precedes the date which the member would have been eligible for normal retirement.

M. Normal Form of Payment:

Monthly life annuity with final payment due in month in which death occurs. Effective January 1, 1986, monthly benefits are increased 2% per annum. Effective January 1, 2001, monthly benefits are increased 3% per annum.

N. Changes Since Previous Valuation

None.

**Retirement System for General Employees of
the Utility Board of the City of Key West**

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

A. Mortality

For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.

Sample Ages (2017)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	30.42	33.99	29.99
60	25.49	28.95	25.32	28.84
62	23.58	26.98	23.48	26.92

Sample Ages (2037)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	32.57	35.97	32.16
60	27.67	30.97	27.52	30.88
62	25.76	29.01	25.68	28.95

B. Interest to be Earned by Fund

7.5%, net of investment expenses, compounded annually - includes inflation of 2.75%.

**Retirement System for General Employees of
the Utility Board of the City of Key West**

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

C. Allowances for Expenses or Contingencies

Average of actual administrative expenses during prior three (3) years.

D. Employee Withdrawal Rates

Withdrawal rates were used in accordance with tables per the following illustrative example:

<u>Withdrawal Rates</u>	
<u>Service</u>	<u>Unisex Rates</u>
0	10.0%
1	9.0%
2	8.0%
3	6.0%
4	4.0%
5+	3.5%

E. Salary Increase Factors

Current salary was assumed to increase according to the following table.

Age	Salary Increase Factors		
	Assumed Wage Inflation	Promotion & Seniority	Total Current Rates
< 25	3.5%	6.5%	10.0%
25 - 34	3.5%	4.0%	7.5%
35 - 44	3.5%	2.5%	6.0%
45 - 54	3.5%	1.5%	5.0%
55 & After	3.5%	1.0%	4.5%

Retirement System for General Employees of
the Utility Board of the City of Key West

Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation

F. Disability Benefits

Class (01) Inter-Company modified disability rates for males were used. Rates for females were doubled. No Workers' Compensation benefits are assumed to be payable.

G. Assumed Retirement Age

Employees are assumed to retire at the rates shown in the following table.

<u>Age</u>	<u>Rate of Retirement</u>
< 55	5%
55 - 58	15%
59 - 60	30%
61 - 62	10%
63 - 69	15%
70	100%

Employees who attain age 50 with 30 years of service after the valuation date are assumed to retire no later than age 50 with 30 years of service. Employees who have reached age 70 or age 50 with 30 years of service as of the valuation date are assumed to remain employed for an additional year.

H. Death Benefits

1. The assumed incidence of deaths is 90% service incurred and 10% as non-service incurred.
2. 10% of participants are assumed to designate a child as beneficiary eligible for future children's benefits.
3. 90% of participants are assumed to be married.

I. Valuation of Assets

The method used for determining the smoothed actuarial value of assets phases in the deviation between the expected and actual return on assets at the rate of 20% per year. The smoothed actuarial value of assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the fair market value of System assets and whose upper limit is 120% of the fair market value of System assets.

**Retirement System for General Employees of
the Utility Board of the City of Key West**

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

J. Increase in Covered Payroll

3.0% per year, but limited to average annual increase over most recent ten years (1.5%).

K. Cost Method

Normal Retirement, Termination, Disability, and Death Benefits: Entry-Age-Actuarial Cost Method

Under this method the normal cost for each active employee is the amount which is calculated to be a level percentage of pay that would be required annually from his age at hire to his assumed retirement age to fund his estimated benefits, assuming the System had always been in effect. The normal cost for the System is the sum of such amounts for all employees. The actuarial accrued liability as of any valuation date for each active employee or inactive employee who is eligible to receive benefits under the System is the excess of the actuarial present value of estimated future benefits over the actuarial present value of current and future normal costs. The unfunded actuarial accrued liability as of any valuation date is the excess of the actuarial accrued liability over the smoothed actuarial value of assets of the System.

L. Changes Since Previous Valuation

Healthy Mortality was:

For healthy male participants, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Reconciliation of Plan Participants

A. Active Participants

1. Active participants previous year	123
2. Retired during year	(5)
3. Deceased during year	0
4. Disabled during year	0
5. Terminated during year	(1)
6. New active participants	9
7. Rehired participants	0
8. Active participants	126

B. Participants Receiving Benefits

1. Participants receiving benefits previous year	181
2. New retired participants	5
3. New terminated vested receiving benefits	0
4. New disabled receiving benefits	0
5. New beneficiaries receiving benefits	1
6. Deceased or ceased payment during year	(7)
7. Retired or terminated vested receiving benefits current year	180

C. Terminated Vested Participants Entitled to Future Benefits

1. Terminated vested entitled previous year	26
2. Deceased during year	0
3. Commenced receiving benefits during year	0
4. New terminated vested	0
5. Terminated vested paid lump sum	0
6. Terminated vested rehired during year	0
7. Adjustment	0
8. Terminated vested entitled current year	26

Table XII

**Retirement System for General Employees of
the Utility Board of the City of Key West
Distribution by Attained Age Groups
and Service Groups as of January 1, 2017**

<u>Attained</u> <u>Age Group</u>	-----COMPLETED YEARS OF SERVICE-----							<u>Total</u>
	<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30 & Over</u>	
Under 25	3	-	-	-	-	-	-	3
25-29	6	3	-	-	-	-	-	9
30-34	9	5	4	-	-	-	-	18
35-39	4	3	7	-	-	-	-	14
40-44	-	2	6	4	-	-	-	12
45-49	1	4	3	1	2	8	-	19
50-54	3	6	2	1	2	4	1	19
55-59	1	2	5	4	2	6	-	20
60-64	1	-	1	1	1	1	-	5
65 & Over	-	-	3	-	1	3	-	7
TOTAL	28	25	31	11	8	22	1	126
				<u>01/01/2016</u>		<u>01/01/2017</u>		
	Average Attained Age			45.93 years		45.40 years		
	Average Hire Age			32.44 years		32.26 years		
	Average Pay			\$ 75,185		\$ 76,730		
	Percent Female			35.0%		34.1%		

Table XIII

**Retirement System for General Employees of
the Utility Board of the City of Key West**

**Statistics for Participants Entitled to Deferred Benefits
and Participants Receiving Benefits**

A. Entitled to Deferred Benefits

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 50	16	\$ 161,459	\$ 10,091
50 - 54	8	55,922	6,990
55 - 59	2	9,552	4,776
60 - 64	-	-	-
65 - 69	-	-	-
70 & Over	-	-	-
TOTAL	26	\$ 226,933	\$ 8,728

B. Receiving Benefits

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 50	6	\$ 157,255	\$ 26,209
50 - 54	24	972,110	40,505
55 - 59	21	598,659	28,508
60 - 64	22	670,249	30,466
65 - 69	29	900,576	31,054
70 - 74	26	690,728	26,566
75 - 79	28	1,086,493	38,803
80 - 84	10	303,996	30,400
85 - 89	10	241,356	24,136
90 & Over	4	82,949	20,737
TOTAL	180	\$ 5,704,371	\$ 31,691

Table XIV

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Recent Compensation, Termination and Investment Return Experience

Calendar Year	Compensation		Termination Ratio of Actual to Expected	Investment Return		
	% Increase (Decrease)	Assumed Increase		Smoothed Actuarial Value	Market Value	Assumed Rate of Return
2016	2.0%	5.6%	0.3	7.9%	6.6%	7.5%
2015	9.7%	5.6%	0.9	7.7%	(0.7%)	7.5%
2014	2.3%	5.6%	1.2	10.5%	5.1%	7.5%
2013	3.1%	7.2%	1.2	12.8%	21.0%	8.0%
2012	3.8%	7.2%	0.4	3.6%	13.5%	8.0%
2011	4.4%	7.4%	0.9	2.6%	1.2%	8.0%
2010	2.5%	7.3%	0.5	3.8%	11.5%	8.0%
2009	6.3%	7.2%	0.3	10.8%	18.4%	8.0%
2008	7.8%	5.5%	1.5	(7.0%)	(21.9%)	8.0%
2007	10.4%	5.5%	1.7	9.2%	7.6%	8.0%
Last 3 Years	4.6%	5.6%	0.7	8.7%	3.6%	7.5%
Last 5 Years	4.1%	6.2%	0.7	8.5%	8.8%	7.7%
Last 10 Years	5.2%	6.4%	0.7	6.0%	5.5%	7.8%

Table XV

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Utility Board Contribution Information

<u>Valuation Date</u>	<u>Contribution Fiscal Year End</u>	<u>Minimum Required Utility Board Contributions</u>	<u>Actual Utility Board Contributions</u>
01/01/2017	12/31/2017	\$ 3,946,896 *	N/A
01/01/2016	12/31/2016	\$ 3,986,227	\$ 3,986,227
01/01/2015	12/31/2015	\$ 3,653,199	\$ 3,653,199
01/01/2014	12/31/2014	\$ 3,511,645	\$ 3,511,645
01/01/2013	12/31/2013	\$ 3,628,209	\$ 3,628,209
01/01/2012	12/31/2012	\$ 3,356,361	\$ 3,356,361
01/01/2011	12/31/2011	\$ 3,174,884	\$ 3,174,884
01/01/2010	12/31/2010	\$ 3,045,252	\$ 3,103,795
01/01/2009	12/31/2009	\$ 3,318,721	\$ 3,318,721
01/01/2008	12/31/2008	\$ 2,537,303	\$ 2,537,303
01/01/2007	12/31/2007	\$ 2,462,847	\$ 2,462,847
01/01/2006	12/31/2006	\$ 2,208,905	\$ 2,208,905

* 40.8% of expected 2017 covered payroll - \$9,667,989

**Retirement System for General Employees of
the Utility Board of the City of Key West**

Actuarial Valuation as of January 1, 2017

State Required Exhibit

	Current Assumptions 01/01/2017	Prior Assumptions 01/01/2017	01/01/2016
A. <u>Participant Data</u>			
1. Active participants	126	126	123
2. Retired participants and beneficiaries receiving benefits	172	172	172
3. Disabled participants receiving benefits	8	8	9
4. Terminated vested participants	26	26	26
5. Annual payroll of active participants	\$ 9,667,989	\$ 9,667,989	\$ 9,247,710
6. Annual benefits payable to those currently receiving benefits	\$ 5,704,371	\$ 5,704,371	\$ 5,483,800
B. <u>Smoothed Actuarial Value of Assets</u>	\$ 84,366,073	\$ 84,366,073	\$ 79,640,645
C. <u>Liabilities</u>			
1. Actuarial present value of future expected benefit payments for active members			
a. Retirement benefits	\$ 46,529,171	\$ 45,933,023	\$ 45,197,341
b. Vesting benefits	1,686,887	1,674,126	1,575,488
c. Death benefits	1,080,674	1,949,841	1,890,846
d. Disability benefits	1,168,616	1,157,777	1,140,554
e. Total	<u>\$ 50,465,348</u>	<u>\$ 50,714,767</u>	<u>\$ 49,804,229</u>
2. Actuarial present value of future expected benefit payments for terminated vested members	\$ 2,032,022	\$ 2,032,022	\$ 1,883,191
3. Actuarial present value of future expected benefit payments for members currently receiving benefits			
a. Service retired	\$ 63,807,222	\$ 63,807,222	\$ 61,085,299
b. Disability retired	1,808,865	1,808,865	1,997,558
c. Beneficiaries	6,249,854	6,249,854	6,223,751
d. Total	<u>\$ 71,865,941</u>	<u>\$ 71,865,941</u>	<u>\$ 69,306,608</u>

Retirement System for General Employees of
the Utility Board of the City of Key West

Actuarial Valuation as of January 1, 2017

State Required Exhibit

	<u>Current Assumptions 01/01/2017</u>	<u>Prior Assumptions 01/01/2017</u>	<u>01/01/2016</u>
4. Total actuarial present value of future expected benefit payments	\$ 124,363,311	\$ 124,612,730	\$ 120,994,028
5. Actuarial accrued liability	\$ 111,918,376	\$ 111,805,179	\$ 108,291,556
6. Unfunded actuarial accrued liability	\$ 27,552,303	\$ 27,439,106	\$ 28,650,911
D. <u>Statement of Accumulated System Benefits</u>			
1. Actuarial present value of accumulated vested benefits			
a. Participants currently receiving benefits	\$ 71,865,941	\$ 71,865,941	\$ 69,306,608
b. Other participants	30,860,723	31,129,217	29,804,095
c. Total	<u>\$ 102,726,664</u>	<u>\$ 102,995,158</u>	<u>\$ 99,110,703</u>
2. Actuarial present value of accumulated non-vested System benefits	<u>889,500</u>	<u>1,066,978</u>	<u>1,177,782</u>
3. Total actuarial present value of accumulated System benefits	\$ 103,616,164	\$ 104,062,136	\$ 100,288,485
E. <u>Statement of Change in Accumulated Plan Benefits</u>			
1. Actuarial present value of accumulated Plan benefits as of January 1, 2016	\$ 100,288,485		
2. Increase (decrease) during year attributable to:			
a. Plan amendment	\$ 0		
b. Change in actuarial assumptions	(445,972)		
c. Benefits paid	(5,462,925)		
d. Other, including benefits accumulated and increase for interest due to decrease in the discount period	<u>9,236,576</u>		
e. Net increase	\$ 3,327,679		
3. Actuarial present value of accumulated Plan benefits as of January 1, 2017	\$ 103,616,164		

Retirement System for General Employees of
the Utility Board of the City of Key West

Actuarial Valuation as of January 1, 2017

State Required Exhibit

	Current Assumptions 01/01/2017	Prior Assumptions 01/01/2017	01/01/2016
F. <u>Pension Cost</u>			
1. Total normal cost	\$ 1,714,785	\$ 1,773,895	\$ 1,777,786
2. Payment required to amortize unfunded liability	2,089,452	2,081,761	2,049,311
3. Interest adjustment	142,659	144,587	143,516
4. Total required contribution	<u>\$ 3,946,896</u>	<u>\$ 4,000,243</u>	<u>\$ 3,970,613</u>
5. Item 4 as a percentage of payroll	40.8%	41.4%	42.9%
6. Estimated employee contributions	\$ 0	\$ 0	\$ 0
7. Item 6 as a percentage of payroll	0.0%	0.0%	0.0%
8. Net amount payable by Utility Board	\$ 3,946,896	\$ 4,000,243	\$ 3,970,613
9. Item 8 as a percentage of payroll	40.8%	41.4%	42.9%
G. <u>Past Contributions</u>			
1. Total contribution required (% of actual payroll)	\$ 3,946,896	\$ 4,000,243	\$ 3,986,227
2. Actual contributions made	N/A	N/A	\$ 3,986,227
H. <u>Net Actuarial Gain (Loss)</u>	\$ 1,142,096	\$ 1,142,096	\$ (295,601)
I. <u>Disclosure of Following Items:</u>			
1. Actuarial present value of future salaries - attained age	\$ 78,444,548	\$ 77,692,989	\$ 72,955,509
2. Actuarial present value of future employee contributions - attained age	\$ 0	\$ 0	\$ 0
3. Actuarial present value of future contributions from other sources	N/A	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 1,728	\$ 1,728	\$ 1,728
5. Actuarial present value of future salaries and future benefits at entry age	N/A	N/A	N/A
6. Actuarial present value of future employee contributions at entry age	N/A	N/A	N/A

Retirement System for General Employees of
the Utility Board of the City of Key West


	<u>State Required Exhibit</u>			
	<u>Unfunded Actuarial</u>	<u>Current Unfunded</u>	<u>Amortization</u>	
	<u>Accrued Liabilities</u>	<u>Liabilities</u>	<u>Payment</u>	
			<u>Remaining Funding</u>	
			<u>Period</u>	
01/01/1997	Actuarial Loss / (Gain)	(3,202,233)	(409,073)	10 years
01/01/1997	Assumption Change	(269,957)	(34,486)	10 years
01/01/1998	Actuarial Loss / (Gain)	(4,674,999)	(557,137)	11 years
01/01/1999	Actuarial Loss / (Gain)	(4,573,164)	(512,528)	12 years
01/01/1999	Plan Amendment	3,684,063	412,884	12 years
01/01/2000	Actuarial Loss / (Gain)	(2,847,489)	(302,129)	13 years
01/01/2001	Actuarial Loss / (Gain)	3,423,230	345,826	14 years
01/01/2001	Plan Amendment	3,935,300	397,557	14 years
01/01/2002	Actuarial Loss / (Gain)	4,368,441	422,225	15 years
01/01/2002	Plan Amendment	9,186	888	15 years
01/01/2003	Actuarial Loss / (Gain)	9,160,646	850,668	16 years
01/01/2003	Method Change	(7,909,282)	(734,465)	16 years
01/01/2003	Assumption Change	(500,093)	(46,439)	16 years
01/01/2004	Actuarial Loss / (Gain)	1,972,971	176,667	17 years
01/01/2005	Retiree Benefit Corrections	(1,287,460)	(111,522)	18 years
01/01/2005	Actuarial Loss / (Gain)	1,906,288	165,127	18 years
01/01/2006	Actuarial Loss / (Gain)	2,513,932	211,254	19 years
01/01/2007	Plan Amendment	48,313	3,948	20 years
01/01/2007	Actuarial Loss / (Gain)	1,730,582	141,435	20 years
01/01/2008	Actuarial Loss / (Gain)	(389,645)	(31,040)	21 years
01/01/2009	Actuarial Loss / (Gain)	10,320,967	803,043	22 years
01/01/2009	Assumption Change	1,896,889	147,591	22 years
01/01/2009	Plan Amendment	35,630	2,772	22 years
01/01/2010	Actuarial Loss / (Gain)	(2,248,970)	(171,220)	23 years
01/01/2011	Actuarial Loss / (Gain)	2,298,997	171,543	24 years
01/01/2012	Actuarial Loss / (Gain)	2,719,629	199,184	25 years
01/01/2013	Actuarial Loss / (Gain)	3,363,636	242,131	26 years
01/01/2014	Actuarial Loss / (Gain)	(3,479,244)	(246,468)	27 years
01/01/2014	Assumption Change	3,977,544	281,767	27 years
01/01/2015	Actuarial Loss / (Gain)	(2,483,490)	(173,325)	28 years
01/01/2016	Combined Bases *	1,970,875	298,617	8 years
01/01/2016	Actuarial Loss / (Gain)	296,910	20,436	29 years
01/01/2016	Assumption Change	2,813,199	193,629	29 years
01/01/2017	Actuarial Loss / (Gain)	(1,142,096)	(77,599)	30 years
01/01/2017	Assumption Change	113,197	7,691	30 years
	TOTAL	\$ 27,552,303	\$ 2,089,452	

* Combined per Internal Revenue Code Regulation 1.412(b)-1

This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the Plan and/or paid from the Plan's assets for which liabilities or current costs have not been established or other wise provided for in the valuation. All known events or trends which may require material increase in Plan costs or required contribution rates have been taken into account in the valuation.

Enrollment Number: 17-02802

Dated: April 17, 2017


Lawrence F. Wilson, A.S.A.