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August 10, 2016

Mr. Michael Bosanac
Administrator/Chief Financial Officer
County of Monroe
125 East Second Street
Monroe, Michigan 48161

**Re: Retiree Medical Expense and Liability Calculations Under GASB Statement 45**

Dear Mr. Bosanac:

Enclosed is our report which presents the results of our calculations under Statement No. 45 of the Governmental Accounting Standards Board, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions," for the 2016 fiscal year for Monroe County's Medical Benefit Program.

The GASB 45 accounting standard does not require that these benefits be pre-funded. Consequently, the Annual Required Contribution shown in the enclosed report does not need to be paid. However, this cost and the cumulative deficiency (if the full cost is not paid) will be disclosed on the County's financial statements.

Also note that GASB has adopted new accounting standards (GASB 75 will replace GASB 45) for fiscal years beginning after June 15, 2017. These new accounting standards will have a significant impact on the Balance Sheet Liability that is reported in the Financial Statements.

Please feel free to call if you have any questions regarding this report.

Sincerely,

Timothy J. Herman, FSA, EA, MAAA
Principal and Consulting Actuary

Gerald R. Bernstein, FSA, MAAA
Principal and Consulting Actuary

TJH/GRB/crl

Enclosure

# MONROE COUNTY

## Actuarial Valuation of Retiree Medical Benefits
## as of December 31, 2015

Prepared by:

**Timothy J. Herman, FSA, EA, MAAA**
Principal and Consulting Actuary

**Gerald R. Bernstein, FSA, MAAA**
Principal and Consulting Actuary

August 10, 2016

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# MONROE COUNTY

**Actuarial Valuation of Retiree Medical Benefits**
**as of December 31, 2015**

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August 10, 2016

Mr. Michael Bosanac
Administrator/Chief Financial Officer
County of Monroe
125 East Second Street
Monroe, Michigan 48161

**Re: Actuarial Valuation of Retiree Medical Benefits for Monroe County**

Dear Mr. Bosanac:

Pursuant to your request, we have completed an actuarial determination of the benefit cost and funded status relating to the future retiree medical benefits of Monroe County as of December 31, 2015. The results of our calculations are set forth in the following report, as are the actuarial assumptions and methods on which our calculations have been made. Our determinations reflect the procedures and methods as prescribed in Statement No. 43 of the Governmental Accounting Standards Board, “Financial Reporting for Postemployment Benefit Plans Other Than Pensions.” and Statement No. 45, “Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions.”

Actuarial computations under Statement No. 45 are for purposes of fulfilling certain employer accounting requirements and under Statement No. 43 are for purposes of fulfilling certain plan accounting requirements. The calculations reported herein have been made on a basis consistent with our understanding of the Statements. Determinations for purposes other than meeting the plan or employer financial accounting requirements of the Statements may differ significantly from the results reported herein.

In preparing this report, we have relied without audit on the employee data, plan provisions, and the value of the plan assets and other plan financial information as provided by your office. If any of this information as summarized in this report is inaccurate or incomplete, the results shown could be materially affected and this report may need to be revised.

The estimated impact of the Patient Protection and Affordable Care Act (ACA) regarding the excise tax on high cost health plans has been reflected in the projections, including recent changes passed into law on December 18, 2015. Future potential changes under the ACA have not been reflected in this analysis as the specific impact cannot be determined at this time.

Milliman’s work is prepared solely for the use and benefit of the County and the Plan’s Trustees. To the extent that Milliman’s work is not subject to disclosure under applicable public records laws, Milliman’s work may not be provided to third parties without Milliman’s prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman’s consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to following exception(s):

(a) The County may provide a copy of Milliman's work, in its entirety, to the County's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the County.

(b) The County may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

The consultants who worked on this assignment are retirement and health actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

It is our understanding that a separate, irrevocable trust has been established to partially pre-fund these benefits. The discount rate used in our calculations reflects this understanding.

This report and its use are subject to the terms of our Consulting Services Agreement with Monroe County dated January 22, 2014.

Actuarial cost methods for GASB 45 reporting are prescribed by Monroe County. The County is responsible for selecting the plan's funding policy, actuarial valuation methods, and asset valuation methods. The policies and methods used are those that have been so prescribed and are described in the Actuarial Basis of the report. The County is solely responsible for communicating to Milliman any changes required thereto.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the applicable Actuarial Standards of Practice. We further certify that, in our opinion, each actuarial assumption, method and technique used is reasonable taking into account the experience of the Plan and reasonable expectations. Nevertheless, the emerging liabilities and costs of the plan will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions.

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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

We, Timothy J. Herman and Gerald R. Bernstein, are actuaries for Milliman, Inc. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. This report uses the expertise of Milliman healthcare and retirement actuaries. Gerald R. Bernstein is responsible for the work related to the current expected healthcare benefit costs and trend rates. Timothy J. Herman is responsible for projecting the current costs into future years using the valuation assumptions and methodology and then calculating the accounting costs and liabilities reported herein.

Respectfully submitted,

Timothy J. Herman, FSA, EA, MAAA
Principal and Consulting Actuary

Gerald R. Bernstein, FSA, MAAA
Principal and Consulting Actuary

TJH/GRB/crl

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***Sent electronically - no hard copy mailed***

# MONROE COUNTY

**Actuarial Valuation of Retiree Medical Benefits**
**as of December 31, 2015**

## I. INTRODUCTION AND PURPOSE

Milliman, Inc. prepared this report at the request of Monroe County's management to estimate the cost of Monroe County's current retiree health benefit program. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. The report should only be used in its entirety to ensure complete understanding of the estimates and the methodology and assumptions underlying the estimates.

In preparing this report, we relied on the overall employee census, premium rates, claims experience, and benefit information provided by Monroe County. We checked the information for reasonableness, but we did not audit the information. To the extent that any of this data or information is incorrect, the results of this report may need to be revised.

A number of assumptions have been made in projecting retiree health costs that should be reviewed prior to interpreting the results shown in this report. These assumptions and methodology are described in this report. The projections in this report are estimates and, as such, Monroe County's actual liability will vary from these estimates. The actual liability will not be known until such time that all eligibility is exhausted and all benefits are paid. The projections and assumptions should be updated as actual costs under this program develop.

## II. COST PROJECTION RESULTS

The actuarial balance sheet is a demonstration of the basic actuarial equation that the actuarial present value of total projected benefits to be paid to the active, retired, and vested terminated participants must equal the assets on hand plus the actuarial present value of future contributions to be received. Accordingly, the status of the plan in balance sheet form as of December 31, 2015 is shown below. The results of the December 31, 2014 valuation are shown for comparative purposes.

**TABLE 1**

| | | December 31, 2014 | December 31, 2015 |
|---|---|---|---|
| **I.** | **Actuarial Present Value of Total Projected Benefits** | | |
| | 262* Active Participants | $60,837,337 | $57,825,910 |
| | 465* Retired Participants | 89,558,502 | 92,304,717 |
| | Grand Total Actuarial Present Value of Total Projected Benefits | $150,395,839 | $150,130,627 |
| **II.** | **Assets and Future Contributions** | | |
| | Valuation Assets | $40,476,574 | $45,238,831 |
| | Unfunded Actuarial Accrued Liability | 97,610,203 | 89,906,535 |
| | Present Value of Future Normal Costs (including the current year) | 12,309,062 | 14,985,261 |
| | Total Assets and Future Contributions | $150,395,839 | $150,130,627 |

* Participant data as of March 11, 2016 is summarized in Section VI.2 of this report.

Liabilities and contributions shown in this report are computed using the Entry Age Normal Method of funding. The objective under this method is to expense each participant's benefit under the plan as they accrue as a level percentage of pay. At the time the Funding Method is introduced, there will be a liability which represents the contributions which would have been accumulated if this method of funding had always been used. The difference between this liability and the assets (if any) is the unfunded liability, which is typically funded over a chosen period in accordance with an amortization schedule. The calculations for the 2017 fiscal year are shown below. The calculations for the 2016 fiscal year are shown for comparative purposes.

**TABLE 2**

| | | | 2016 Fiscal Year | 2017 Fiscal Year |
|---|---|---|---|---|
| A. | **Employer Normal Costs** (Entry Age Normal Actuarial Cost Method) | | | |
| | (1) | Current Year Normal Cost – Beginning of Year | $1,287,055 | $1,528,842 |
| | (2) | Assumed Interest to the End of the Year | 70,788 | 84,086 |
| | (3) | Current Year Normal Cost – End of Year: [(1) + (2)] | $1,357,843 | $1,612,928 |
| B. | **Determination of Current Year Amortization Payment** | | | |
| | (1) | Unfunded Actuarial Liability (see Table 1) | $97,610,203 | $89,906,535 |
| | (2) | Amortization Period | 17 Years | 16 Years |
| | (3) | Level Dollar Amortization Factor | 11.1634 | 10.7499 |
| | (4) | Amortization Amount – Beginning of Year: [(1) / (3)] | 8,743,770 | 8,363,476 |
| | (5) | Assumed Interest to the End of the Year | 480,907 | 459,991 |
| | (6) | Amortization Amount – End of Year: [(4) + (5)] | $9,224,677 | $8,823,467 |

## II. COST PROJECTION RESULTS *(continued)*

### DISCLOSURES

### TABLE 3

| | **Fiscal Year-Beginning** | January 1, 2016 | January 1, 2017 |
|---|---|---|---|
| I. | Determination of Annual Required Contribution* | | |
| | (1) Discount Rate at Beginning of Fiscal Year | 5.50% | 5.50% |
| | (2) Normal Cost for Benefits Attributable to Service in the Year | $1,357,843 | $1,612,928 |
| | (3) Amortization of Unfunded Actuarial Accrued Liability | 9,224,677 | 8,823,467 |
| | (4) Annual Required Contribution (ARC): (2) + (3) | $10,582,520 | $10,436,395 |

* Please note these are the total contributions before adjustment for member contributions. The member contributions need to be subtracted to obtain the net employer contribution. Based on the information provided by the County, the expected member contributions will be $431,736 for the fiscal year beginning January 1, 2017.

| | **Fiscal Year-End** | 12/31/2015 | 12/31/2016 |
|---|---|---|---|
| II. | Net OPEB Obligation | | |
| | (1) Total Annual Required Contributions | $12,818,063 | $10,582,520 |
| | (2) Employee Contributions | (475,593) | (422,910) |
| | (3) Net Employer Annual Required Contributions | $12,342,470 | $10,159,610 |
| | (4) Interest on Net OPEB Obligation | 897,067 | 1,161,922 |
| | (5) Adjustment to ARC(1) | (1,411,500) | (1,892,422) |
| | (6) Net OPEB Cost (Expense) | $11,828,037 | $9,429,110 |
| | (7) Employer Contributions Made | (7,012,487) | (6,511,203)(2) |
| | (8) Increase in Net OPEB Obligation | $4,815,550 | $2,917,907 |
| | (9) Net OPEB Obligation – Beginning of Year | 16,310,309 | 21,125,859 |
| | (10) Net OPEB Obligation – End of Year | $21,125,859 | $24,043,766 |

III. OPEB History

| Fiscal Year Ended | Annual OPEB Cost | Employer Contributions | Percentage of Annual OPEB Cost Contributed | Net OPEB Obligation |
|---|---|---|---|---|
| 12/31/13 | $8,635,414 | $6,025,812 | 69.8% | $13,595,902 |
| 12/31/14 | 8,945,069 | 6,230,662 | 69.7 | 16,310,309 |
| 12/31/15 | 11,828,037 | 7,012,487 | 59.3 | 21,125,859 |

(1) Adjustment to ARC is to offset, approximately, the amortization of the net experience losses (or gains) from past contribution deficiencies (or excess contributions) in relation to the ARC.

(2) Budgeted amount for 2016.

**Funded Status and Funding Progress.** As of December 31, 2015, the most recent actuarial valuation date, the plan was 33.5% funded. The actuarial accrued liability for benefits was $135,145,366, and the actuarial value of assets was $45,238,831, resulting in an unfunded actuarial accrued liability (UAAL) of $89,906,535.

# MONROE COUNTY

### Actuarial Valuation of Retiree Medical Benefits
### as of December 31, 2015

## II. COST PROJECTION RESULTS *(continued)*

### REQUIRED SUPPLEMENTARY INFORMATION

### TABLE 4

### Schedule of Funding Progress

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded AAL (UAAL) (b-a) | Funded Ratio (a/b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll ((b-a)/c) |
|---|---|---|---|---|---|---|
| 12/31/13 | $36,782,374 | $158,979,286 | $122,196,912 | 23.1% | N/A | N/A |
| 12/31/14 | 40,476,574 | 138,086,777 | 97,610,203 | 29.3 | N/A | N/A |
| 12/31/15 | 45,238,831 | 135,145,366 | 89,906,535 | 33.5 | N/A | N/A |

### TABLE 5

### Cash Flow Projections
### Annual Undiscounted Cost of Retiree Medical Benefits,
### Net of Retiree Premium Contributions
### Current Retiree Plus Current Active Employees

| Year | General County Billable | General County Non-Billable | County Agency | Sheriff's Office Billable | Sheriff's Office Non-Billable | Dispatchers | Total |
|---|---|---|---|---|---|---|---|
| 2016 | $773,000 | $2,241,000 | $340,000 | $323,000 | $1,680,000 | $137,000 | $5,494,000 |
| 2017 | 808,000 | 2,321,000 | 329,000 | 318,000 | 1,697,000 | 136,000 | 5,609,000 |
| 2018 | 791,000 | 2,448,000 | 358,000 | 338,000 | 1,697,000 | 137,000 | 5,769,000 |
| 2019 | 760,000 | 2,465,000 | 385,000 | 332,000 | 1,741,000 | 137,000 | 5,820,000 |
| 2020 | 826,000 | 2,516,000 | 406,000 | 336,000 | 1,774,000 | 120,000 | 5,978,000 |
| 2021 | 886,000 | 2,574,000 | 439,000 | 358,000 | 1,900,000 | 132,000 | 6,289,000 |
| 2022 | 931,000 | 2,480,000 | 489,000 | 352,000 | 1,899,000 | 134,000 | 6,285,000 |
| 2023 | 962,000 | 2,527,000 | 531,000 | 393,000 | 2,029,000 | 149,000 | 6,591,000 |
| 2024 | 1,035,000 | 2,585,000 | 550,000 | 443,000 | 2,064,000 | 165,000 | 6,842,000 |
| 2025 | 1,023,000 | 2,668,000 | 563,000 | 521,000 | 2,107,000 | 164,000 | 7,046,000 |

# MONROE COUNTY

**Actuarial Valuation of Retiree Medical Benefits**
**as of December 31, 2015**

## III. FINANCIAL INFORMATION

**TABLE 6**

**Reported Financial Information at Market Value**
**Year Ended December 31, 2015**

| REVENUES AND DISBURSEMENTS | | |
|---|---|---|
| **Revenues** | | |
| a. | Employer Contributions | $ 7,012,487 |
| b. | Member Contributions | 474,348 |
| c. | Medicare Part D Reimbursements | 0 |
| d. | Interest and Dividends | 1,023,402 |
| e. | Investment Gain | (935,358) |
| f. | Other Investment Income | 241,468 |
| g. | Total | $7,816,347 |
| **Disbursements** | | |
| a. | Health Care Benefits | $ 4,830,941 |
| b. | Refunds of Member Contributions | 106,300 |
| c. | Administrative Expenses | 33,317 |
| d. | Investment Expenses | 326,553 |
| e. | Total | $ 5,297,111 |
| **Reserve Increase** | | |
| Total revenues minus total disbursements | | $ 2,519,236 |

| REPORTED ASSETS | | |
|---|---|---|
| **Securities** | | |
| a. | Cash and Short Term Investments | $ 5,284,780 |
| b. | Bonds | 14,680,983 |
| c. | Stocks | 23,868,452 |
| d. | Less: Accounts Payables | 250 |
| e. | Net assets | $43,833,965 |

# MONROE COUNTY

### Actuarial Valuation of Retiree Medical Benefits
### as of December 31, 2015

## III. FINANCIAL INFORMATION *(continued)*

### TABLE 7

### Development of Valuation Assets

| Valuation Date December 31: | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| **1. Beginning of Year Assets** | | | | | |
| a) Market Value | $25,159,436 | $27,322,398 | $32,175,735 | $38,346,096 | $41,314,729 |
| b) Valuation Assets | 26,954,468 | 29,756,300 | 32,472,863 | 36,782,374 | 40,476,574 |
| **2. End of Year Market Value of Assets** | 27,322,398 | 32,175,735 | 38,346,096 | 41,314,729 | 43,833,965 |
| **3. Net Additions to Market Value** | | | | | |
| a) Net Contributions | 6,117,352 | 6,811,316 | 6,483,447 | 6,699,735 | 7,486,835 |
| b) Net Investment Income = (3d)-(3a)-(3c) | (262,772) | 2,992,851 | 4,652,949 | 1,865,570 | 2,959 |
| c) Benefit Payments, Refunds, and Admin. Expenses | (3,691,618) | (4,950,830) | (4,966,035) | (5,596,672) | (4,970,558) |
| d) Total Additions to Market Value = (2)-(1a) | 2,162,962 | 4,853,337 | 6,170,361 | 2,968,633 | 2,519,236 |
| **4. Average Valuation Assets = (1b) + .5*[(3a)+(3c)]** | 28,167,335 | 30,686,543 | 33,231,569 | 37,333,906 | 41,734,713 |
| **5. Expected Income at Valuation Date = 6.5%*(4)*** | 1,971,713 | 2,148,058 | 2,326,210 | 2,426,704 | 2,712,756 |
| **6. Gain (Loss) = (3b)-(5)** | (2,234,485) | 844,793 | 2,326,739 | (561,134) | (2,709,797) |
| **7. Phased-In Recognition of Investment Return** | | | | | |
| a) Current Year: 0.2*(6) | (446,897) | 168,959 | 465,348 | (112,227) | (541,959) |
| b) First Prior Year | 89,250 | (446,897) | 168,959 | 465,348 | (112,227) |
| c) Second Prior Year | 189,229 | 89,250 | (446,897) | 168,959 | 465,348 |
| d) Third Prior Year | (1,292,524) | 189,229 | 89,250 | (446,897) | 168,959 |
| e) Fourth Prior Year | (134,673) | (1,292,522) | 189,229 | 89,250 | (446,897) |
| f) Total Recognized Investment Gain | (1,595,615) | (1,291,981) | 465,889 | 164,433 | (466,776) |
| **8. Change in Valuation Assets (3a)+(3c)+(5)+(7f)** | 2,801,832 | 2,716,563 | 4,309,511 | 3,694,200 | 4,762,257 |
| **9. End of Year Assets** | | | | | |
| a) Market Value = (2) | 27,322,398 | 32,175,735 | 38,346,096 | 41,314,729 | 43,833,965 |
| b) Valuation Assets = (1b) + (8) | 29,756,300 | 32,472,863 | 36,782,374 | 40,476,574 | 45,238,831 |
| c) Difference Between Market & Valuation Assets | (2,433,902) | (297,128) | 1,563,722 | 838,155 | (1,404,866) |
| **10. Recognized Rate of Return = [(5)+(7f)]/(4)** | 1.34% | 2.79% | 8.40% | 6.94% | 5.38% |
| **11. Market Rate of Return = 2*(3b)/[(1a)+(2)-(3b)]** | (1.00%) | 10.59% | 14.13% | 4.80% | 0.01% |

*Investment return assumption was 7.00% per year before 2014.

## IV. METHODOLOGY

Our general methodology to calculate the net present value consisted of the following steps:

(1) Estimate the number of current active employees that will be employed at Monroe County each year after December 31, 2015 until all current employees are either retired or no longer employed by Monroe County.

(2) Project the number of retired participants that will be alive each year after December 31, 2015 until all participants are presumed to have exhausted their benefit eligibility.

(3) Project the net retiree claim costs and death benefits (and net administrative expenses) per participant for each year and for each age category using the December 31, 2015 claim costs as a starting point and increasing the claim costs each year by the assumed annual rates of medical inflation.

(4) Estimate the total net medical costs for each year as follows: (2) x (3)

(5) Determine the total present value of the net medical costs by discounting (4) for each year back to December 31, 2015 at the assumed discount rate.

We calculated the liability estimates using actuarial assumptions summarized in Section V. We prepared assumptions as to claim costs, premium rates, annual trends in the utilization and cost of medical care, participation rates, termination rates, retirement rates, disability rates, and mortality based on information provided by Monroe County, and our judgment.

We based our calculations on the detailed census data provided. This data provided the age and gender for retirees and actives. For future retirees, we assumed husbands/wives are the same age as participants.

## V. ACTUARIAL COST METHOD

### Entry Age Normal Actuarial Cost Method

The actuarial cost method determines, in a systematic way, the incidence of plan sponsor contributions required to provide plan benefits. It also determines how actuarial gains and losses are recognized in post-employment costs. These gains and losses result from the difference between the actual experience under the plan and the experience expected based on the actuarial assumptions.

The cost of the Plan is derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

Actuarial liabilities and comparative costs shown in this Report were computed using the **Entry Age Normal Actuarial Cost Method**, which is described below:

The objective under this method is to fund each member's benefits under the Plan as payments which are level as a percentage of salary, starting at original participation date (or employment date), and continuing until the assumed date of retirement termination, disability or death.

At any given date, a liability is calculated equal to the contributions which would have been accumulated if this method of funding had always been used, the current plan provisions had always been in place, and all assumptions had been met. The difference between this liability and the assets (if any) which are held in the fund is the unfunded actuarial accrued liability. The unfunded actuarial accrued liability is typically funded over a chosen period in accordance with the amortization schedule.

A detailed description of the calculation follows: The normal cost for each active member under the assumed retirement age is determined by applying to earnings the level percentage of salary which, if contributed each year from date of entry into the Plan until the assumed retirement (termination, disability or death) date, is sufficient to provide the full value of the benefits expected to be payable.

1. The present value of future normal costs is the total of the discounted values of all active members' normal cost, assuming these to be paid in each case from the valuation date until retirement (termination, disability or death) date.

2. The present value of projected benefits is calculated as the value of all benefit payments expected to be paid to the Plan's current members, including active and retired members, beneficiaries, and terminated members with vested rights.

3. The actuarial accrued liability is the excess of the present value of projected benefits over the present value of future normal costs.

4. Valuation Assets are equal to the previous year's valuation assets increased by contributions and investment income and reduced by refunds, and benefit payments. The difference between the actual investment return and the expected return is phased-in over a 5-year period.

5. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over the assets of the fund, and represents that part of the actuarial accrued liability which has not been funded by accumulated past contributions.

## V. ACTUARIAL COST METHOD *(continued)*

### Amortization Method

Unfunded Actuarial Accrued Liability is amortized in level dollar payments to a fixed amortization date of December 31, 2030.

### County Budgeting/Reporting Method

Contributions calculated using the results of the December 31, 2015 actuarial valuation are paid in the fiscal year beginning January 1, 2017.

### County Asset Allocation Method

The total actuarial value of assets at the valuation date is allocated based on each division's proportionate share of an "Allocation Base" where the allocation base is calculated as the allocated actuarial value of assets by division at the prior valuation date, plus contributions, and less benefit payments during the year.

## VI. ACTUARIAL ASSUMPTIONS

The following actuarial assumptions were used in the development of Monroe County's retiree health cost projections. Where consistent with the terms of the plan, actuarial assumptions have utilized the assumptions for the Monroe County Employees Retirement System (MCERS) as provided in the December 31, 2014 Actuarial Valuation report.

1. **Interest Discount Rate:** 5.50% compounded annually. This is based on an expected return on assets of 6.5% compounded annually.

2. **Mortality**: RP2014 Blue Collar Mortality Tables (Healthy Annuitant, Employee, and Disabled, as appropriate) projected back to 2006 base year using Projection Scale MP2014 (male and female, as appropriate) with generational projection using Projection Scale MP2015).

3. **Employee Turnover/Withdrawal:** MCERS for all employees. Rates are shown in the table below.

| | | % of Active Members Separating within Next Year | |
|---|---|---|---|
| Sample Ages | Years of Service | Sheriff's Office & Dispatchers | General County & County Agency |
| ALL | 0 | 22.50% | 2.00% |
| | 1 | 13.50 | 13.00 |
| | 2 | 10.50 | 12.00 |
| | 3 | 10.50 | 10.00 |
| | 4 | 10.50 | 8.00 |
| 25 | 5 & Over | 3.00 | 6.12 |
| 30 | | 3.00 | 6.12 |
| 35 | | 2.00 | 5.44 |
| 40 | | 2.00 | 5.10 |
| 45 | | 1.75 | 3.40 |
| 50 | | 1.00 | 3.40 |
| 55 | | 0.50 | 0.85 |
| 60 | | 0.00 | 0.85 |

4. **Disablement:** MCERS disability rates for all employees. Rates are shown in the table below.

| | % of Active Members Becoming Disabled within Next Year | |
|---|---|---|
| Sample Ages | Men | Women |
| 20 | 0.1170% | 0.1020% |
| 25 | 0.1170 | 0.1020 |
| 30 | 0.1170 | 0.1020 |
| 35 | 0.1170 | 0.1020 |
| 40 | 0.3015 | 0.3560 |
| 45 | 0.3975 | 0.4050 |
| 50 | 0.7380 | 0.5670 |
| 55 | 1.3395 | 0.7660 |
| 60 | 2.1210 | 1.0170 |

5. **Retirement:** MCERS retirement rates for all employees. Rates are shown in the table below.

| | Percent of Active Members Retiring Within Next Year | |
|---|---|---|
| Age | General County & County Agency | Sheriff's Office & Dispatchers |
| 50 | | 23.50% |
| 51 | | 23.50 |
| 52 | | 23.50 |
| 53 | | 31.25 |
| 54 | | 31.25 |
| 55 | 37.50% | 31.25 |
| 56 | 12.50 | 31.25 |
| 57 | 12.50 | 15.63 |
| 58 | 12.50 | 7.88 |
| 59 | 12.50 | 7.88 |
| 60 | 20.00 | 7.88 |
| 61 | 20.00 | 7.88 |
| 62 | 20.00 | 7.88 |
| 63 | 25.00 | 7.88 |
| 64 | 25.00 | 7.88 |
| 65 | 25.00 | 100.00 |
| 66 | 30.00 | |
| 67 | 30.00 | |
| 68 | 30.00 | |
| 69 | 30.00 | |
| 70 | 100.00 | |

6. **Salary Increase:** MCERS merit and longevity for all employees. Rates are shown in the table below.

| | | Annual Rate of Pay Increases for Sample Ages | |
|---|---|---|---|
| | | Merit and Longevity | Total |
| Years of Service | Base (Economic) | General County, County Agency, Sheriff's Office & Dispatchers | General County, County Agency, Sheriff's Office & Dispatchers |
| 1 | 3.00% | 2.50% | 5.50% |
| 2 | 3.00 | 2.50 | 5.50 |
| 3 | 3.00 | 2.50 | 5.50 |
| 4 | 3.00 | 2.50 | 5.50 |
| 5 | 3.00 | 2.50 | 5.50 |
| 6 | 3.00 | 2.50 | 5.50 |
| 7 | 3.00 | 2.50 | 5.50 |
| 8 | 3.00 | 2.50 | 5.50 |
| 9+ | 3.00 | 0.50 | 3.50 |

7. **Percentage of Retirees Participating In Retiree Medical Coverage:**

   Future retirees: 100% of current eligible employees are expected to participate in Monroe County's retiree health insurance plan.

   Current retirees: Actual retiree participation.

8. **Percentage of Retirees Electing Family Coverage:**

   Future retirees: 85% of male and 30% of female General and County Agency employees and 90% of male and 50% of female Sheriff's Office employees and Dispatchers were assumed to have 2 person coverage at retirement.

   Current retirees: Actual family coverage election.

9. **Age Difference of Active Employees and Spouses:** Spouses same age as participants.

10. **Annual Medical Trend Rate Assumptions:** Medical inflation was based on the "Getzen" model published by the Society of Actuaries for purposes of evaluating long term medical trend. Under the Patient Protection and Affordable Care Act of 2010 including changes passed into law on December 18, 2015, a federal excise tax will apply for high cost health plans beginning in 2020. A margin to reflect the impact of the excise tax in future years is reflected in the assumed trend. The following tables show the trend rates used in this valuation.

| Annual Trend Rate—Pre-65 | | | |
|---|---|---|---|
| Year | Medical | Year | Dental/Vision |
| 2016 | 6.30% | 2016 | 5.00% |
| 2017 | 5.90 | 2017 | 5.00 |
| 2018 | 5.20 | 2018 | 5.00 |
| 2019 | 5.10 | 2019 | 5.00 |
| 2020 | 5.10 | 2020 | 5.00 |
| 2030 | 5.20 | 2030 | 5.00 |
| 2040 | 6.00 | 2040 | 5.00 |
| 2050 | 5.60 | 2050 | 5.00 |
| 2060 | 5.40 | 2060 | 4.90 |
| 2070 | 4.60 | | |
| 2080 | 4.50 | | |
| 2090 | 4.50 | | |
| Ultimate (2097) | 4.40 | Ultimate (2070) | 4.30 |

| Annual Trend Rate—Post-65 | | | |
|---|---|---|---|
| Year | Medical | Year | Dental/Vision |
| 2016 | 4.70% | 2016 | 4.70% |
| 2017 | 8.90 | 2017 | 5.00 |
| 2018 | 5.30 | 2018 | 5.00 |
| 2019 | 5.30 | 2019 | 5.00 |
| 2020 | 5.30 | 2020 | 5.00 |
| 2030 | 5.30 | 2030 | 5.00 |
| 2040 | 5.70 | 2040 | 5.00 |
| 2050 | 5.80 | 2050 | 5.00 |
| 2060 | 5.50 | 2060 | 5.00 |
| 2070 | 4.70 | 2070 | 4.40 |
| Ultimate (2080) | 4.50 | Ultimate (2071) | 4.30 |

11. **Expected 2016 Monthly Medical Costs per Retiree:** We developed estimates of the 2016 monthly medical costs per retiree by age based on the County's current claim cost experience and actual administrative costs per capita, adjusted for demographic differences between retirees and all participants (actives and retirees combined) and adjusted for plan benefit differences.

| | Male | | Female | |
|---|---|---|---|---|
| Age | Single | Family | Single | Family |
| 55 | $ 867 | $1,899 | $ 959 | $1,899 |
| 60 | 1,123 | 2,325 | 1,129 | 2,325 |
| 64 | 1,422 | 2,799 | 1,303 | 2,799 |
| 65 | 411 | 822 | 410 | 822 |
| 70 | 471 | 921 | 451 | 921 |

The pre-65 medical costs shown in the table above are multiplied by a factor of 0.945 for each of the next six years to reflect the phase-in of the health benefit plan available to future retirees.

12. **Expected 2016 Monthly Dental Costs per Retiree:** We developed estimates of the 2016 monthly dental costs per retiree by age based on the County's current claim cost experience and actual administrative costs per capita, adjusted for demographic differences between retirees and all participants (actives and retirees combined) and adjusted for plan benefit differences.

| | Male | | Female | |
|---|---|---|---|---|
| Age | Single | Family | Single | Family |
| 55 | $24 | $51 | $25 | $51 |
| 60 | 27 | 56 | 27 | 56 |
| 64 | 28 | 58 | 28 | 58 |
| 65 | 29 | 59 | 28 | 59 |
| 70 | 30 | 60 | 28 | 60 |

13. **Changes in Assumptions Since Prior Valuation:** The estimated annual claim costs were changed to reflect anticipated experience pursuant to a review of the medical provisions and recent experience. The medical and dental trend rates were changed to reflect anticipated experience under the most recent Getzen model application. The mortality assumption was updated based upon the most recent publication distributed by the Society of Actuaries. The retirement rates, withdrawal rates, disablement rates, and salary scale were updated as provided in the December 31, 2014 actuarial valuation report for the Monroe County Employees Retirement System. The overall impact of the new assumptions is a decrease in the benefit obligations.

14. **Rationale for Significant Assumptions:** With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the plan will vary as well. The following assumptions should be reviewed for appropriateness.

**Discount Rate**: The discount rate is based upon the expected return of assets set aside in the trust, if any, to play plan benefits and investments from the general account of the entity and on the County's recent contribution history relative to the GASB 45 Annual Required Contribution.

**Demographic Assumptions**: Monroe County participates in the Monroe County Employees Retirement System. The actuary for the system updates assumptions periodically based upon plan experience. When consistent with the terms of the County's retiree medical plan, we have used the assumptions used in the System's December 31, 2014 actuarial valuation.

**Medical Trend**: We are using medical inflation assumptions based on the “Long Term Healthcare Costs Trend Resource Model” created for the Society of Actuaries by Professor Thomas E. Getzen of Temple University. This model reflects the most current academic research regarding future healthcare cost trends.

**Expected Medical Costs**: Relative cost factors were developed from the Milliman Health Cost Guidelines. Based on the carrier premium rates and relative age cost factors assumptions, we developed age adjusted “per member per month” (PMPM) costs for 2016.

**Participant Rate and Spouse Election**: We have based the rate on recent experience in the plan.

## VII. DATA

1. **Monthly 2016 Retiree Premiums:** The current employee premium rates for plan members are shown in the following table.

| Monthly 2016 Pre-Medicare Health Insurance Premiums | | | | |
|---|---|---|---|---|
| **Description** | **Single** | **Employee & Spouse** | **Employee & Child(ren)** | **Family** |
| BCBSM PPO 1, $10 Rx | $801.22 | $2,003.06 | $1,602.47 | $2,403.70 |
| BCBSM PPO 1, $10/$20/$30 Rx | $822.58 | $1,815.87 | $1,452.72 | $2,179.07 |
| BCBSM PPO 1, $10/$40 Rx | $694.47 | $1,736.21 | $1,388.98 | $2,083.46 |
| BCBSM PPO 2, $10/$20/$30 Rx | $680.98 | $1,702.43 | $1,361.95 | $2,042.93 |
| BCBSM PPO 2, $10/$40 Rx | $649.11 | $1,622.77 | $1,298.21 | $1,947.32 |
| BCBSM PPO 3, $10/$40 Rx | $578.51 | $1,446.29 | $1,157.01 | $1,735.53 |
| BCBSM PPO 3, $10/$20/$30 Rx | $610.38 | $1,525.95 | $1,220.75 | $1,831.14 |
| BCBSM PPO 4, $10/$40 Rx | $535.87 | $1,339.65 | $1,071.72 | $1,607.58 |
| BCBSM PPO 5, $10/$40 Rx | $520.48 | $1,301.19 | $1,040.95 | $1,561.43 |
| BCBSM PPO 6, $10/$40 Rx | $493.81 | $1,234.49 | $987.60 | $1,481.40 |
| BCBSM PPO 3R, 50% ($5/$50) Rx | $537.00 | $1,342.50 | $1,074.00 | $1,610.98 |
| BCBSM PPO 6R, 50% ($5/$50) Rx | $474.67 | $1,186.69 | $949.33 | $1,424.02 |
| BCBSM FB3 w/H.S.A., Integrated Rx | $393.06 | $982.65 | $786.12 | $1,179.19 |
| BCBSM EPO 1, $2 Rx (Formerly Paramount & Blue Care Network) | $848.26 | $2,120.65 | $1,696.53 | $2,544.79 |
| BCBSM EPO 2, $10/$20/$30 Rx (Formerly Blue Care Network) | $744.03 | $1,860.05 | $1,488.05 | $2,232.08 |
| BCBSM EPO 1, $10/$20 Rx (Formerly Paramount) | $818.91 | $2,047.24 | $1,637.80 | $2,456.70 |
| BCBSM EPO 3, $10/$20/$30 Rx (Formerly Paramount) | $733.82 | $1,834.54 | $1,467.65 | $2,201.47 |
| BCBSM CMM 1, $5 Rx | $944.38 | $2,360.97 | $1,888.78 | $2,833.15 |
| BCBSM CMM 2, $2 Rx | $953.96 | $2,384.92 | $1,907.93 | $2,861.89 |
| BCBSM CMM 3, $2 Rx | $951.50 | $2,378.73 | $1,902.98 | $2,854.49 |
| BCBSM CMM 4, $10 Rx | $905.71 | $2,264.23 | $1,811.39 | $2,717.09 |

| Monthly 2016 Post-Medicare Health Insurance Premiums | | |
|---|---|---|
| **Description** | **Single** | **Employee & Spouse** |
| Plan F $100 Deductible, $10 Rx | $497.40 | $994.80 |
| Plan F $100 Deductible, $10/$20/$30 Rx | $475.40 | $950.80 |
| Plan F, $100 Deductible, $10/$40 Rx | $407.40 | $814.80 |
| Plan F, $100 Deductible, 50% ($5/$50) Rx | $377.40 | $754.80 |
| Plan F, $0 Deductible, $2 Rx | $552.40 | $1,104.80 |
| Plan F, $0 Deductible, $10 Rx | $507.40 | $1,014.80 |
| Plan F, $0 Deductible, $10/$20/$30 Rx | $485.40 | $970.80 |
| Plan F, $100 Deductible, $5 Rx | $522.40 | $1,044.80 |
| Plan F, $50 Deductible, $2 Rx | $546.40 | $1,092.80 |
| Plan F, $100 Deductible, $2 Rx | $542.40 | $1,084.80 |

| Monthly 2016 Dental and Vision Insurance Premiums | | | | |
|---|---|---|---|---|
| Description | Single | Employee & Spouse | Employee & Child(ren) | Family |
| BCBSM Dental 1<br>(75%/25% w/ $800 Max Benefit) | $27.57 | $70.30 | $55.14 | $85.47 |
| BCBSM Dental 2<br>(100%/75%/50% w/ $1000 Max Benefit) | $23.20 | $59.17 | $46.40 | $71.93 |
| BCBSM Vision 1<br>(24 Month Exam, Lenses & Frames) | $2.45 | $6.25 | $4.90 | $7.60 |
| BCBSM Vision 2<br>(12 Month Exam, Lenses & Frames) | $3.28 | $8.36 | $6.56 | $10.17 |
| BCBSM Vision 3<br>(12 Month Exam & Lenses, 24 Month Frames) | $3.23 | $8.23 | $6.46 | $10.01 |

2. **Participant Data:** We relied on the following medical plan participant data as of March 11, 2016. We have assumed no material changes in the participant data between December 31, 2015 and March 11, 2016.

| | Participant Count | Average Age | Average Service |
|---|---|---|---|
| Active Employees | 262 | 47.3 | 17.2 |
| Retirees | 465 | 66.4 | |

## VIII. PLAN PROVISIONS

| Group | Eligibility Condition [1] | Medical Benefits [2,7] | Prescription Drug | Spouse Coverage | Cost Sharing | Employee Contributions |
|---|---|---|---|---|---|---|
| **General County** [6] | Age 55 with 30 years or age 60 with 8 years of service. New hires are no longer eligible for County-paid retiree health care (the effective dates vary by unit). | Yes | Yes | County pays 50% plus 2.27% for each year in excess of 8 years of service at retirement.[4] | [3] | 3% of Pay |
| **County Agency** | Age 55 with 30 years or age 60 with 8 years of service. Effective 1/1/2008, new hires are no longer eligible for retiree health care. | Yes | Yes | County pays 50% plus 2.27% for each year in excess of 8 years of service at retirement.[4] | [3] | 3% of Pay |
| **Sheriff's Office** | Age 50 with 25 years or age 60 with 8 years of service. New hires are no longer eligible for County-paid retiree health care (the effective dates vary by unit). | Yes | Yes | County pays 50% plus 2.94% for each year of service in excess of 8 years at retirement.[5] | [3] | 3% of Pay |
| **Dispatchers** [6] | Age 50 with 25 years or age 60 with 8 years of service. Effective 10/1/2007, new hires are no longer eligible for County-paid retiree health care. | Yes | Yes | County pays 50% plus 2.94% for each year of service in excess of 8 years at retirement.[5] | [3] | 3% of Pay |

1 *Disabled retirees and survivors of deceased employees receive coverage. Deferred vested members do not receive retiree health care coverage.*

2 *Retirees are covered by various plans with different deductibles and co-pays.*

3 *All eligible groups mirror Active Employee Cost Sharing.*

4 *For members who retire on or after 12/31/1996. Coverage to the spouse continues upon the retiree's death, provided the spouse is receiving the deceased retiree's retirement allowance.*

5 *For members who retire on or after 1/1/2001. Coverage to the spouse continues upon the retiree's death, provided the spouse is receiving the deceased retiree's retirement allowance.*

6 *General County & Dispatch employees who retired prior to a date defined in their CBA will receive retiree health care benefits upon attainment of the age and service requirements listed.*

7 *Retirees are also provided Life Insurance in the amount of $10,000 for Department Heads, and $4,000 for all other Retirees.*

# MONROE COUNTY

### Actuarial Valuation of Retiree Medical Benefits as of December 31, 2015

| Valuation Group | Union Name | Not Elligible for Retiree Health Care if Hired on or After | Not Eligible for Retiree Life Insurance if Hired on or After |
|---|---|---|---|
| **General County** | Non-Union Other | 10/28/2003 | 1/1/2003 |
| | Non-Union Management | 10/28/2003 | 1/1/2003 |
| | Elected Officials-Non-Union | 10/28/2003 | 1/1/2003 |
| | Michigan Nurses Association Unit I | 10/28/2003 | 8/28/2007 |
| | UAW/Friend of the Court | 10/28/2003 | 3/23/2004 |
| | UAW/Probate Court | 10/28/2003 | 8/24/2004 |
| | United Steelworkers/Youth Center | 6/14/2005 | 1/1/2011 |
| | POAM/District Court Unit I | 9/2/2005 | 1/1/2011 |
| | POAM/District Court Unit II | 9/2/2005 | 1/1/2011 |
| | POAM/Assistant Prosecutors | 9/13/2005 | 9/13/2005 |
| | AFSCME General | 7/25/2006 | 7/25/2006 |
| | AFSCME District Court | 7/25/2006 | 7/25/2006 |
| | AFSCME Youth Center | 7/25/2006 | 7/25/2006 |
| | UAW/Youth Center | 8/28/2007 | 8/28/2007 |
| | County (Non-Union) Part-time | N/A | N/A |
| **County Agency** | Utility Workers of America/County Agency | 1/1/2008 | Available |
| | Non-Union/County Agency | 10/28/2003 | 1/1/2003 |
| **Sheriff's Office** | POAM/Sheriff Deputies | 7/1/2013 | 7/1/2013 |
| | POLC/Command Officers | 7/1/2013 | 7/1/2013 |
| | POAM/Correctional Officers Unit I | 1/1/2011 | 12/11/2007 |
| | POAM/Correctional Officers Unit II | 1/1/2011 | 2/12/2008 |
| **Dispatchers** | POLC/Communication Officers | 10/1/2007 | 10/1/2007 |
| | POLC/Communication Supervisors | 10/1/2007 | 10/1/2007 |

## IX. GLOSSARY

The following is an explanation of many of the terms referenced by the Statement of the Governmental Accounting Standards Board, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions".

1. **Actuarial Cost Method.** This is a procedure for determining the Actuarial Present Value of Benefits and allocating it to time periods to produce the Actuarial Accrued Liability and the Normal Cost. The Statement assumes a closed group of employees and other participants unless otherwise stated; that is, no new entrants are assumed. Six methods are permitted – Unit Credit, Entry Age Normal, Attained Age, Aggregate, Frozen Entry Age, and Frozen Attained Age.

2. **Actuarial Accrued Liability.** This is the portion of the Actuarial Present Value of Benefits attributable to periods prior to the valuation date by the Actuarial Cost Method (i.e., that portion not provided by future Normal Costs).

3. **Actuarial Present Value of Benefits.** This is the value, as of the applicable date, of future payments for benefits and expenses under the Plan, where each payment is:

   (a) Multiplied by the probability of the event occurring on which the payment is conditioned, such as the probability of survival, death, disability, termination of employment, etc.; and

   (b) Discounted at the assumed discount rate.

4. **Actuarial Value of Assets.** This is the value of cash, investments and other property belonging to the Plan, as used by the actuary for the purpose of an Actuarial Valuation.

5. **Amortization Payment.** This is the amount of the contribution required to pay interest on and to amortize over a given period the Unfunded Actuarial Accrued Liability or the Unfunded Frozen Actuarial Accrued Liability. A closed amortization period is a specific number of years counted from one date and reducing to zero with the passage of time; an open amortization period is one that begins again or is recalculated at each actuarial valuation date.

6. **Annual Required Contribution ("ARC").** This is the employer's periodic required contribution to a defined benefit OPEB plan, calculated in accordance with the set of requirements for calculating actuarially determined OPEB information included in financial reports.

7. **Attribution Period.** The period of an employee's service to which the expected postretirement benefit obligation for that employee is assigned. The beginning of the attribution period is the employee's date of hire. The end of the attribution period is the full retirement eligibility date. For disability retirement, the end of the attribution period is the date of disability.

8. **Benefit Payments.** The monetary or in-kind benefits or benefit coverage to which participants may be entitled under a postemployment benefit plan, including health care benefits and life insurance not provided through a pension plan.

9. **Funding Excess.** This is the excess of the Actuarial Value of Assets over the actuarial accrued liability.

## IX. GLOSSARY *(continued)*

10. **Normal Cost.** This is the portion of the Actuarial Present Value of Benefits allocated to a valuation year by the Actuarial Cost Method.

11. **Net OPEB Obligation.** This is the cumulative difference since the effective date of this statement between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.

12. **Other Postemployment Benefits ("OPEB").** This refers to postemployment benefits other than pension benefits, including healthcare benefits regardless of the type of plan that provides them, and all other postemployment benefits provided separately from a pension plan, excluding benefits defined as termination benefits or offers.

13. **Return on Plan Assets.** This is the actual investment return on plan assets during the fiscal year.

14. **Substantive Plan.** The terms of the postretirement benefit plan as understood by an employer that provides postretirement benefits and the employees who render services in exchange for those benefits. The substantive plan is the basis for the accounting for the plan.

15. **Unfunded Actuarial Accrued Liability.** This is the excess of the actuarial accrued liability over the Actuarial Value of Assets.

# MONROE COUNTY

**Actuarial Valuation of Retiree Medical Benefits**
**as of December 31, 2015**

## APPENDIX: DETERMINATION OF ANNUAL REQUIRED CONTRIBUTION BY DIVISION

| | GASB 45 Liabilities | | | | | | |
|---|---|---|---|---|---|---|---|
| | General County Billable | General County Non-Billable | County Agency | Sheriff's Office Billable | Sheriff's Office Non-Billable | Dispatchers | Total |
| December 31, 2015 Actuarial Present Value of Projected Benefits | $20,429,786 | $49,213,164 | $9,749,199 | $18,152,658 | $47,761,550 | $4,824,270 | 150,130,627 |
| December 31, 2015 AAL | 19,067,817 | 46,552,113 | 8,990,512 | 14,503,935 | 42,034,606 | 3,996,383 | 135,145,366 |
| Allocated December 31, 2015 Actuarial Value of Assets | 8,936,917 | 12,557,163 | 3,428,774 | 7,846,584 | 10,153,251 | 2,316,142 | 45,238,831 |
| December 31, 2015 Unfunded AAL | 10,130,900 | 33,994,950 | 5,561,738 | 6,657,351 | 31,881,355 | 1,680,241 | 89,906,535 |
| **Determination of Annual Required Contribution:** | | | | | | | |
| December 31, 2015 Normal Cost | $154,096 | $359,070 | $82,777 | $342,050 | $519,883 | $70,966 | $1,528,842 |
| Interest on Normal Cost | 8,475 | 19,749 | 4,553 | 18,812 | 28,594 | 3,903 | 84,086 |
| December 31, 2016 Normal Cost | 162,571 | 378,819 | 87,330 | 360,862 | 548,477 | 74,869 | 1,612,928 |
| December 31, 2015 Amortization | 942,418 | 3,162,350 | 517,376 | 619,294 | 2,965,735 | 156,303 | 8,363,476 |
| Interest on Amortization | 51,833 | 173,929 | 28,456 | 34,061 | 163,115 | 8,597 | 459,991 |
| December 31, 2016 Amortization | 994,251 | 3,336,279 | 545,832 | 653,355 | 3,128,850 | 164,900 | 8,823,467 |
| Total ARC for 2017 fiscal year | 1,156,822 | 3,715,098 | 633,162 | 1,014,217 | 3,677,327 | 239,769 | 10,436,395 |