

**BAY COUNTY EMPLOYEES' RETIREMENT SYSTEM
SIXTY-EIGHTH ANNUAL ACTUARIAL VALUATION REPORT
DECEMBER 31, 2013**

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October 1, 2014

The Board of Trustees
Bay County Employees'
Retirement System
Bay City, Michigan

Re: Bay County Employees' Retirement System Actuarial Valuation as of December 31, 2013

Dear Board Members:

The results of the December 31, 2013 Annual Actuarial Valuation of the Bay County Employees' Retirement System are presented in this report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board.

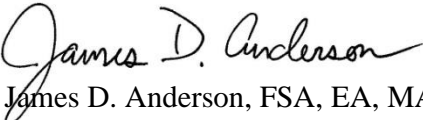
The purpose of the valuation is to measure the System's funding progress, provide actuarial information in connection with applicable Governmental Accounting Standards Board Statements (GASB) and to determine the employer contribution rate for the fiscal year ending December 31, 2015.

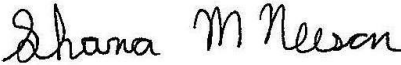
James D. Anderson and Shana M. Neeson are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Please see the following page for additional disclosures required by the Actuarial Standards of Practice.

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Bay County Employees' Retirement System as of the valuation date. 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.

Respectfully submitted,


James D. Anderson, FSA, EA, MAAA


Shana M. Neeson, ASA, MAAA

JDA/SMN:mrp

Additional Disclosures Required by Actuarial Standards of Practice

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 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.

The signing actuaries are independent of the plan sponsor.

The valuation was based upon information furnished by the County, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year to year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the County.

The developed findings included in this report consider data or other information through December 31, 2013.

SECTION A
EXECUTIVE SUMMARY

1. Required Employer Contributions - Fiscal Year Beginning January 1, 2015

The computed employer contributions **exclusive of employer paid "member" contributions** are as follows:

Division	Valuation Year Fiscal Year	Contribution Rate	
		12/31/2012 1/1/2014	12/31/2013 1/1/2015
General County		3.87 %	0.03 %
DWS		15.75	15.72
Library*		9.26	\$ 89,491
BABH		10.01	12.85 %
Medical Care Facility		7.22	4.20
Sheriff's Department		0.55	0.00
Road Commission		21.32	19.14

* Beginning with the 2013 valuation, the Library contribution is calculated as a level dollar amount, since the Library is closed to future hires.

It is important to remember that the current contribution rates for General County, Library, Medical Care Facility, and Sheriff are lower than the long-term cost of the plan (the normal cost). This is because these divisions have overfunding credits. The credits reduce the required contributions below the normal costs until the overfunding is eliminated. *If future experience were to exactly match each of the assumptions, the employer contribution rates would not remain level. Increases would occur over time and contribution rates would increase towards the normal cost or long-term cost of the benefits.*

2. Funded Ratio Comparison

The funding percentage for each of the valuation groups are shown below.

Division	Funded Ratio	
	12/31/2012	12/31/2013
General County	105 %	109 %
DWS	75	78
Library	96	103
BABH	92	87
Medical Care Facility	98	104
Sheriff's Department	112	119
Road Commission	80	84

This year for all employment divisions combined valuation assets represent 100.5% of accrued liabilities; last year the ratio was 97.6%. If the valuation results were based on market value of assets instead of smoothed funding value, the funded percent of the plan would be 112.7%.

3. Reasons for Change

There are three general reasons why contribution rates change from one valuation to the next. The first is a change in the benefits or eligibility conditions of the plan. The second is a change in the valuation assumptions used to predict future occurrences. The third is the difference during the year between the plan's actual experience and what the assumptions predicted.

The General County and Sheriff's Department first reported, for this valuation, corrections in the benefit provisions for members hired after January 1, 2012 (see descriptions in Section C). The Library is now closed to members hired after January 1, 2012, and BABH offered an Early Retirement Incentive Program (ERIP). There were no other changes in benefit provisions, valuation assumptions, or methods for the 2013 valuation.

4. 2013 Plan Experience

The aggregate experience during 2013 was favorable, with an overall gain/(loss) of 9,556,551. The gain/(loss) information is shown separately for each group on page B-7.

Investment return on the market value of assets for calendar year 2013 exceeded the assumed rate of return for the valuation. However, the asset smoothing method only recognizes 20% of a given year's investment gain or loss. This is the first year the loss from 2008 is no longer being phased in. Partial recognition of this year's gain along with gains from prior years were enough to completely offset continued phase-in of investment losses from prior years, resulting in the investment gain on the smoothed value of assets as shown below. The experience gain on investments and all other experience is quantified below.

Investment Gain/(Loss)	\$13,937,898
Non-investment Gain/(Loss)	<u>(4,381,347)</u>
Gain/(Loss) from all causes	9,556,551

5. Retiree Reserve Balance

The retiree accrued liabilities for all divisions are larger than the reported retiree reserve balances. For detail see Comment A on page B-5.

6. Looking Ahead

Investment income greater than or less than expected based on the investment return assumption, is recognized over a 5-year period under the current asset valuation method. Due to favorable investment performance during four of the previous five years, unrecognized investment gains exist that are scheduled to be recognized over the next four years. As a result, the funding value of assets was 89% of market value as of December 31, 2013. Furthermore, absent future actuarial losses, this is expected to put downward pressure on the required contribution amounts in the near term.

SECTION B

VALUATION RESULTS AND COMMENTS

Financial Objective

The financial objective of the Retirement System is to establish and receive contributions, expressed as a percentage of active member payroll, which will remain approximately level from year to year and will not have to be increased for future generations of citizens.

Your annual actuarial valuations determine how well the objective is being met.

The Board of Trustees of the Bay County Employees' Retirement System confirms that the System provides for payment of the required employer contribution as described in Section 20m of Michigan Public Act No. 728 of 2002.

Contribution Rates

The Retirement System is supported by contributions from the employers, by member contributions and by the investment income earned on System assets. For some divisions, the required member contributions are paid by the Employer either through contributions to the System or by transferring funds from the employer reserves to the employee reserves. In addition, the Employer provides an actuarially determined contribution.

Member and Employer contributions cover both (i) normal cost, and (ii) the financing of the unfunded accrued liability over a period of future years. The normal cost is the portion of System costs allocated to the current year by the valuation method described on page D-1. The unfunded accrued liability is the portion of System costs not covered by present System assets and future normal costs.

The contribution requirements for the fiscal year beginning January 1, 2015 are presented on page B-2.

**Contributions to Provide Benefits
Member Portion and Employer Portion
Fiscal Year Beginning January 1, 2015**

Contributions for	% of Active Payroll							
	General County	DWS	Library*	BABH	Medical Care Facility	Sheriff's Department	Road Commission	Total
Normal cost of benefits:								
Age & service	9.64 %	9.90 %	\$ 177,700	10.11 %	9.50 %	13.21 %	12.92 %	10.30 %
Disability	0.27	0.27	3,524	0.25	0.36	1.09	0.71	0.38
Death-in-service	0.26	0.28	5,034	0.28	0.16	0.32	0.50	0.27
Total	10.17	10.45	186,258	10.64	10.02	14.62	14.13	10.95
Member contributions#:								
Total	4.23	4.00	67,120	4.00	4.00	5.80	4.75	4.30
Future refunds	0.33	0.35	10,739	0.71	0.31	0.38	0.29	0.43
Available for pensions	3.90	3.65	56,381	3.29	3.69	5.42	4.46	3.87
Administrative expenses	0.40	0.40	6,712	0.40	0.40	0.40	0.40	0.40
Employer normal cost	6.67	7.20	136,589	7.75	6.73	9.60	10.07	7.48
Unfunded accrued liability ERIP^				3.46				
Unfunded accrued liability	(6.64)	8.52	(47,098)	1.64	(2.53)	(15.59)	9.07	
Computed Employer Rate	0.03	15.72		12.85	4.20	(5.99)	19.14	
Computed Employer \$ Contribution Amount			\$ 89,491					\$ 2,897,774

For certain divisions, the member contributions are paid by the employer, either by directly contributing to the Retirement System or by transferring funds from employer reserves to employee reserves.

* Beginning with the 2013 valuation, the Library contribution is calculated as a level dollar amount, since the Library is closed to future hires.

^ Unfunded accrued liability associated with the Early Retirement Incentive Program (ERIP).

Unfunded actuarial accrued liabilities were amortized as a level dollar amount for the Library and as a level percent of member payroll for all other groups over a closed period of 29 years and asset surpluses were amortized over an open period of 10 years for all other groups. The increase in unfunded actuarial accrued liability associated with the ERIP was amortized over a period of 10 years.

The procedure for determining dollar contribution amounts is shown on page B-3.

Page B-4 displays the unfunded accrued liabilities (asset surpluses) that are amortized by the contribution rates shown above.

Determining Dollar Contributions

For any period of time, the percent-of-payroll contribution rates need to be converted to dollar amounts. We recommend one of the following procedures:

- (1) Contribute dollar amounts for a period which are equal to the employer's percent-of-payroll contribution requirement multiplied by the covered active member payroll for the period. Adjustments should be made as necessary to exclude items of pay that are not covered compensation for Retirement System benefits and to include non-payroll payments that are covered compensation; or
- (2) Contribute the dollars for each group based on the table shown below.

Group:	General County	DWS	Library	BABH	Medical Care Facility	Sheriff's Department	Road Commission	Total
Contribution:	\$ 4,432	\$ 337,103	\$ 89,491	\$ 1,430,552	\$ 445,934	\$ -	\$ 590,262	\$ 2,897,774

These amounts are based on the payroll information provided for the valuation.

Timing of Contribution Payments

The contribution requirements in this report anticipate regular payments throughout the year. Examples would be at each payroll date or in 12 monthly installments. If the employer contribution pattern is significantly different, an adjustment to the costs may be appropriate. For example, a lump sum contribution at the beginning of the year is available for investment throughout the year and, therefore, ought to be somewhat smaller than 12 monthly payments. Similarly, a lump sum contribution at the end of the year will not generate any investment income that year.

Determination of Unfunded Accrued Liability

	General County	DWS	Library	BABH	Medical Care Facility	Sheriff's Department	Road Commission	Total
A. Accrued liability								
1. For retirees and beneficiaries	\$ 49,682,955	\$ 8,936,706	\$ 5,023,147	\$ 29,147,265	\$ 26,157,279	\$ 14,971,611	\$ 20,017,814	\$ 153,936,777
2. For vested terminated members	3,056,049	18,818	263,925	2,512,080	758,127	222,775	238,411	7,070,185
3. For present active members								
a. Value of expected future benefit payments	47,807,913	6,629,264	6,006,992	25,057,629	26,449,595	16,914,098	13,726,767	142,592,258
b. Value of future normal costs	10,562,460	1,586,354	1,507,796	10,745,052	7,684,357	5,367,117	4,028,069	41,481,205
c. Active member liability: (a) - (b)	37,245,453	5,042,910	4,499,196	14,312,577	18,765,238	11,546,981	9,698,698	101,111,053
4. Total actuarial accrued liability	89,984,457	13,998,434	9,786,268	45,971,922	45,680,644	26,741,367	29,954,923	262,118,015
B. Valuation assets	97,838,882	10,890,017	10,079,290	39,863,628	47,676,541	31,886,127	25,130,184	263,364,669
C. Unfunded accrued liability (Excess assets): (A.4) - (B)								
	(7,854,425)	3,108,417	(293,022)	6,108,294	(1,995,897)	(5,144,760)	4,824,739	(1,246,654)
D. Funding ratio: (B) / (A.4)	108.7%	77.8%	103.0%	86.7%	104.4%	119.2%	83.9%	100.5%

Comments

COMMENT A: We developed the value of anticipated future benefit payments to retired members and their beneficiaries. We then compared this accrued liability to the reported value of the retirement reserve account. The figures below compare the retired liabilities and reserves for each division.

Division	Retiree Accrued Liability	Reported Retiree Reserve	Unfunded Retiree Liability
General County	\$ 49,682,955	\$ 40,503,646	\$ 9,179,309
DWS	8,936,706	7,455,539	1,481,167
Library	5,023,147	4,336,108	687,039
BABH	29,147,265	12,581,894	16,565,371
Medical Care Facility	26,157,279	22,370,223	3,787,056
Sheriff's Department	14,971,611	12,102,634	2,868,977
Road Commission	20,017,814	17,033,440	2,984,374
Total	\$153,936,777	\$116,383,484	\$37,553,293

As of the valuation date, there is a shortfall in the retiree reserve for all groups. This valuation anticipates that the difference between the accrued liability and the reported reserve will be transferred from the Retirement System employer reserve to the retiree reserve effective January 1, 2014 to fully fund the retiree accrued liability.

COMMENT B: Contribution rates changed during the year for various reasons. In particular, all divisions experienced the impact of the favorable investment performance. Demographic experience varied by division, but overall there was a mortality loss due to fewer than expected retiree deaths. In addition, there was an overall pay gain, from lower than expected payroll increases.

Four groups in the Retirement System are anticipated to come out of an overfunded position (assets exceeding liabilities) in the coming years. When this happens, contribution rates can increase significantly from one year to the next as they approach the long-term cost of the plan. In the long run, as the overfunding is used up the contributions will increase towards the normal cost or long-term cost of the benefits. One prudent practice to dampen contribution volatility is to lengthen the period for amortizing credits from the current period of 10 years, before the credit disappears.

Comments

COMMENT C: The chart on the following page shows the experience gain/(loss) for 2013. Non-investment experience during 2013 was unfavorable, with the exception of the Library, Medical Care Facility, and the Sheriff's Department. The development of the investment gain/(loss) is shown on page B-8.

COMMENT D: The results shown reflect an asset transfer in the amount of \$259,045 from the General group to the Road Commission. This transfer is recommended as a result of the membership transfer between the General group and the Road Commission. The transfer amount was calculated based on the actuarial accrued liability associated with the member who transferred and the funded percent of the General group. Since the General group is over 100% funded, 100% of the liability and assets associated with the transferred member are recommended to be transferred from the General group to the Road Commission. We recommend the Board establish a policy consistent with the calculations above for future transfers involving members with more than 10 years of service. Further, we recommend the Board approve the asset transfer in the amount of \$259,045 from the General group to the Road Commission.

COMMENT E: BABH offered an Early Retirement Incentive Program (ERIP) which resulted in an increase in the Unfunded Actuarial Accrued Liability (UAAL) of \$2,931,084. For purposes of calculating the employer contribution rate this increase in UAAL was amortized over a period of 10 years.

Determination of Experience Gain/(Loss) Year Ended December 31, 2013

Actual experience will never (except by coincidence) exactly match assumed experience. It is hoped that gains and losses will cancel each other over a period of years, but sizable year to year fluctuations are common. Detail on the determination of the experience gain/(loss) is shown below:

	General County	DWS	Library	BABH	Medical Care Facility	Sheriff's Department	Road Commission	Total
(1) UAAL at start of year	\$ (4,034,261)	\$ 3,281,798	\$ 394,048	\$ 2,866,899	\$ 786,791	\$ (3,205,227)	\$ 5,899,079	\$ 5,989,127
(2) Normal cost for the year 2013	1,537,691	221,403	216,666	1,221,118	1,081,347	595,681	431,255	5,305,161
(3) Actual employer & employee contributions	(1,260,867)	(410,790)	(254,008)	(1,978,056)	(1,392,616)	(231,721)	(770,516)	(6,298,574)
(4) Net interest accrual on (1), (2) and (3)	(292,314)	239,118	28,170	186,974	47,477	(226,908)	429,862	412,379
(5) Expected UAAL before changes: (1) + (2) + (3) + (4)	(4,049,751)	3,331,529	384,876	2,296,935	522,999	(3,068,175)	5,989,680	5,408,093
(6) Change from benefit changes	(16,803)	-	-	2,931,084	-	(12,477)	-	2,901,804
(7) Change from revised actuarial assumptions or methods	-	-	-	-	-	-	-	-
(8) Expected UAAL after changes: (5) + (6) + (7)	(4,066,554)	3,331,529	384,876	5,228,019	522,999	(3,080,652)	5,989,680	8,309,897
(9) Actual UAAL at end of year	(7,854,425)	3,108,417	(293,022)	6,108,294	(1,995,897)	(5,144,760)	4,824,739	(1,246,654)
(10) Gain/(Loss): (8) - (9)	3,787,871	223,112	677,898	(880,275)	2,518,896	2,064,108	1,164,941	9,556,551
(11) Actuarial accrued liabilities at start of year	85,934,745	13,189,648	9,522,831	37,710,121	43,932,965	26,033,904	28,945,653	245,269,867
(12) Gain/(Loss) as a percent of actuarial accrued liabilities at start of year: (10)/(11)	4.4%	1.7%	7.1%	(2.3)%	5.7%	7.9%	4.0%	3.9%
(13) Investment Gain/(Loss)	5,214,924	576,706	532,623	2,071,553	2,518,431	1,694,947	1,328,714	13,937,898
(14) Gain/(Loss) from all other causes	(1,427,053)	(353,594)	145,275	(2,951,828)	465	369,161	(163,773)	(4,381,347)

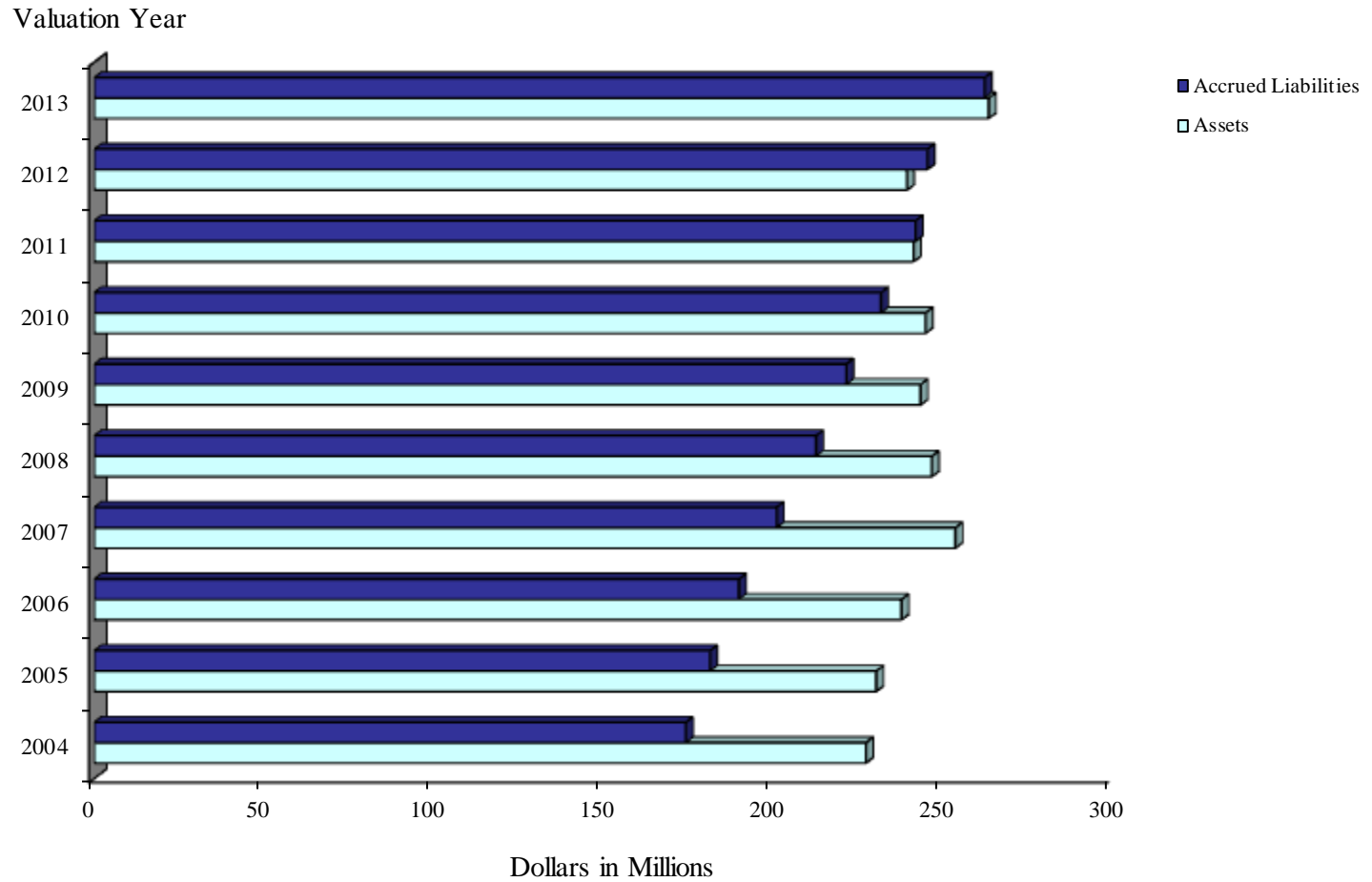
Development of Valuation Investment Gain/(Loss) Year Ended December 31, 2013

We anticipate an average return on valuation assets of 7.5% for future years.

(1) Total 2013 valuation investment income:	\$ 31,602,025
(2) Average valuation assets:	235,521,692
(3) Expected investment income: $(.075) \times (2)$	17,664,127
(4) Gain/(Loss): $(1) - (3)$	13,937,898
(5) Valuation rate of return for 2013: $(1) / (2)$	13.42 %

Please note that this analysis uses asset values and investment income as defined for the actuarial valuation. It is not, therefore, appropriate as a measure of manager performance.

Assets & Accrued Liabilities



2004 assets equaled 130.4% of accrued liabilities.
 2013 assets equaled 100.5% of accrued liabilities.

Computed Contributions - Comparative Statement

Valuation Date	Valuation Payroll			Employer Requirements As Percents of Valuation Payroll@							
	Total	Average	% Incr.	Annual Dollar Requirement	General County	DWS+	Library+	BABH+	Medical Care Facility	Sheriff's Department	Road Commission
12/31/1994	\$27,358,462	\$26,105	1.6	\$ 848,833	1.66 %				2.25 %	1.18 %	16.64 %
12/31/1995 #	28,878,179	26,913	3.1	624,607	0.91				1.56	0.00	13.62
12/31/1996 #	30,646,324	27,835	3.4	430,513	0.00				1.69	0.00	12.76
12/31/1997 #	32,216,234	28,739	3.2	248,762	0.00				0.00	0.00	9.15
12/31/1998 #	34,308,505	29,885	4.0	45,010	0.00				0.00	0.00	1.67
12/31/1999 #	35,763,978	31,072	4.0	0	0.00				0.00	0.00	0.00
12/31/2000 #	38,314,967	32,090	3.3	0	0.00				0.00	0.00	0.00
12/31/2001 #*	39,761,644	33,218	3.5	0	0.00	0.00 %	0.00 %	0.00 %	0.00	0.00	0.00
12/31/2002	41,331,916	33,658	1.3	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/31/2003 *	43,053,950	35,175	4.5	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/31/2004 #	43,550,999	36,202	2.9	405,110	0.00	0.00	0.68	1.11	0.00	0.00	8.19
12/31/2005	43,104,046	36,010	(0.5)	588,948	0.00	0.00	1.60	2.53	0.00	0.00	9.34
12/31/2006 #	42,024,045	37,455	4.0	644,945	0.00	0.00	0.00	3.24	0.00	0.00	10.82
12/31/2007 #	44,687,752	39,269	4.8	688,871	0.00	0.00	0.00	3.70	0.00	0.00	9.17
12/31/2008	46,482,897	39,695	1.1	1,578,548	0.00	4.44	0.00	6.95	2.32	0.00	14.13
12/31/2009 ^	47,244,573	40,208	1.3	2,443,118	0.00	7.40	2.74	8.83	5.05	0.00	17.64
12/31/2010	47,090,560	40,771	1.4	3,074,891	1.19	11.71	6.91	9.08	7.36	0.00	18.05
12/31/2011 #	48,583,176	41,702	2.3	4,289,438	4.08	13.77	9.89	10.17	9.57	0.00	20.78
12/31/2012 *	48,571,798	41,444	(0.6)	3,859,894	3.87	15.75	9.26	10.01	7.22	0.55	21.32
12/31/2013 #	44,535,708	39,447	(4.8)	2,897,774	0.03	15.72	\$ 89,491	12.85	4.20	0.00	19.14

+ Prior to 12/31/2001 included with General County.

Retirement System amended.

* Revised actuarial assumptions or methods.

^ Implementation of a one year lag between valuation date and first day of the fiscal year to which the contributions apply.

@ Beginning with the 2013 valuation, the Library contribution is calculated as a level dollar amount, since the Library is closed to future hires.

SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

Brief Summary of Plan Provisions as of December 31, 2013

No.	Division Name	Retirement Eligibility		
		Normal	Early	Deferred
1	Elected Officials and Department Heads	Age 55 with 30 yrs of svc or age 60 with 8/10* yrs of svc	Age 55 with 8/10* yrs of svc	8/10* yrs of svc
2	Judges			
3	General County			
4	General Circuit Court			
5	General District Court			
6	General Probate Court			
7	BCAMPS			
8	USWA General			
9	USWA Part-Time Employees			
15	District Court AFSCME			
10	Nurses	Age 55 with 30 yrs of svc or age 60 with 8/10# yrs of svc	Age 55 with 8/10# yrs of svc	8/10# yrs of svc
16	Probate Court USWA	Age 55 with 30 yrs of svc or age 60 with 8 yrs of svc	Age 55 with 8 yrs of svc	8 yrs of svc
23	Behavioral Health AFSCME			
24	Behavioral Health General			
18	Library - Employee Members of UWUA Local 542	Age 55 with 30 yrs of svc or age 60 with 8/10! yrs of svc	Age 55 with 8/10! yrs of svc	8/10! yrs of svc
19	General Library			
30	ICEA/PERA 1203			
31	ICEA/PERA 612			
14	Circuit Court Govt. Employees Labor Council (GELC)	Age 55 with 30 yrs of svc or age 60 with 8/10@ yrs of svc	Age 55 with 8/10@ yrs of svc	8/10@ yrs of svc
32	Road Patrol Supervisory Unit	25 yrs of svc regardless of age or age 60 with 8/10@ yrs of svc	Age 55 with 8/10@ yrs of svc	8/10@ yrs of svc
11	Sheriff - Road Patrol	25 yrs of svc regardless of age or age 60 with 8/10* yrs of svc	Age 55 with 8/10* yrs of svc	8/10* yrs of svc
12	Sheriff Correctional Facility Officers	Age 55 with 25 yrs of svc or age 60 with 8/10* yrs of svc	25 yrs of svc regardless of age or age 55 with 8/10* yrs of svc	8/10* yrs of svc
13	Dispatchers	30 yrs of svc regardless of age, age 55 with 25 yrs of svc, or age 60 with 8/10* yrs of svc	25 yrs of svc regardless of age or age 55 with 8/10* yrs of svc	8/10* yrs of svc
20	Medical Care Facility United Steel Workers Local 15301	30 yrs of svc regardless of age, age 55 with 25 yrs of svc, or age 60 with 8 yrs of svc	Age 55 with 8 yrs of svc	8 yrs of svc
21	Medical Care Facility RN & LPN Nursing Council			
22	General Medical Care Facility			
25	Road Commission AFSCME Local 1096	30 yrs of svc regardless of age or age 60 with 8/10* yrs of svc	Age 55 with 8/10* yrs of svc	8 yrs of svc
26	Road Commission Class I Supervisory and Admin. Employees			
28	Water and Sewer UWUA Local 546	30 yrs of svc regardless of age or age 60 with 8/10^ yrs of svc	Age 55 with 8/10^ yrs of svc	8/10^ yrs of svc
29	Water and Sewer General			

@ 10 yrs of svc for members hired after 1/1/2006.

* 10 yrs of svc for members hired after 1/1/2007.

10 yrs of svc for members hired after 3/1/2007.

^ 10 yrs of svc for members hired after 7/1/2008.

! 10 yrs of svc for members hired after 3/1/2008.

Brief Summary of Plan Provisions as of December 31, 2013 (Continued)

Eligibility	Amount
NORMAL RETIREMENT	
See prior page.	Total service times FAC times: 2.00% for division 23 2.25% for divisions 1-10, 14, 16 hired before 1/1/2012 2.25% for divisions 18-22, 24, and 28-31 2.50% for divisions 12, 13, 15, and 32 hired before 1/1/2012 2.80% for division 11 hired before 1/1/2012 1.60% for divisions 1-16, and 32 hired on or after 1/1/2012* 2.50% for members hired before 1/1/1996; for members hired after 1/1/1996 2.50% for service through 3/31/2011 and 2.25% for service after 3/31/2011 for Division 26 2.50% for members hired before 1/1/2011 2.25% for members hired after 1/1/2011 for Division 25 Maximum County-financed is 75% of FAC. Type of FAC - Highest 5 years. Some lump sums included.
EARLY RETIREMENT	
See prior page.	Normal retirement reduced to the actuarial equivalent of a pension at normal retirement age.
DEFERRED RETIREMENT	
Service condition as indicated on page C-1. Benefit begins at age 60 or reduced at age 55.	Computed as a normal retirement but based on service and final average compensation at time of termination.
NON-DUTY DEATH IN SERVICE	
10 or more years of credited service at any age.	Computed as a normal retirement but actuarially reduced in accordance with a 100% joint and survivor election.
DUTY DEATH IN SERVICE	
No age or service requirements. Benefits begin upon termination of Worker's Compensation.	To the spouse, a refund of accumulated contributions plus a benefit equal to the Worker's Compensation amount. Unmarried children under 18 and parents receive a benefit equal to the Worker's Compensation amount.

* *Three members hired after 1/1/2012 continue to be eligible for the multiplier and member contribution rate in effect prior to the implementation of the 1.60% multiplier and 4% member contribution rate for members hired after 1/1/2012.*

Brief Summary of Plan Provisions as of December 31, 2013 (Concluded)

Eligibility	Amount
NON-DUTY DISABILITY	
10 or more years of credited service.	Computed as a normal retirement. Worker's Compensation payments may be offset.
DUTY DISABILITY	
No age or service requirements.	Computed as a normal retirement with additional service credit granted to age 55. Worker's Compensation payments may be offset.
POST-RETIREMENT COST-OF-LIVING ADJUSTMENTS	
One-time increases have been granted.	
MEMBER CONTRIBUTIONS	
For members hired before 1/1/2012, 6% of annual compensation for: Sheriff-Road Patrol (div. 11) Sheriff Correctional Facility Officers (div. 12) Road Patrol Supervisory Unit (div. 32) Dispatchers (div. 13) District Court AFSCME (div. 15) 4% of annual compensation for groups 11-13, 15, and 32 hired on or after 1/1/2012*. 5% of annual compensation for Road Commission local 1096 (div. 25). 4% of annual compensation for remaining groups. For certain employee groups, the employer pays the member contribution either by directly contributing to the Retirement System or by transferring funds from the employer to the employee reserves.	
EMPLOYER CONTRIBUTIONS	
Actuarially determined amounts which, together with member contributions, are sufficient to cover both (i) normal costs of the plan, and (ii) financing of unfunded accrued liabilities over a selected period of future years.	
RETIREMENT SYSTEM ELIGIBILITY	
Library members hired on or after January 1, 2012 are no longer eligible to participate in the Bay County Employees' Retirement System.	
* <i>Three members hired after 1/1/2012 continue to be eligible for the multiplier and member contribution rate in effect prior to the implementation of the 1.60% multiplier and 4% member contribution rate for members hired after 1/1/2012.</i>	

**Reported Financial Information
Year Ended December 31, 2013
(Market Value)**

Revenues and Disbursements during 2013

Revenues:

a. Employee contributions	\$ 2,200,017	
b. Employer contributions	4,098,557	
c. Investment income	57,797,145	
d. Miscellaneous income	<u>229,395</u>	
e. Total		\$64,325,114

Disbursements:

a. Benefits paid	\$ 13,242,071	
b. Refunds of member contributions	326,468	
c. Administrative expenses	248,131	
d. Investment expenses	<u>2,030,042</u>	
e. Total		<u>\$15,846,712</u>

Reserve Increase:

Total revenues minus total disbursements	<u><u>\$48,478,402</u></u>
--	----------------------------

Assets and Reserves as of December 31, 2013

Assets:

a. Cash & equivalents#	\$ 199,013
b. Short term investments	9,516,044
c. Stocks	204,678,142
d. Bonds	70,183,380
e. Real Estate	10,429,375
f. Other	<u>382,144</u>
Total	<u><u>\$295,388,098</u></u>

Reserve Accounts:

a. Employee contributions	\$ 27,311,776
b. Reserve for benefits now being paid	116,383,484
c. Reserve for future benefits	151,691,838
Total	<u><u>\$295,388,098</u></u>

Adjusted for accruals net of payables.

Development of Valuation Assets December 31, 2013

	2009	2010	2011	2012	2013
1. Beginning of Year Assets					
a) Market Value	\$170,175,086	\$205,994,725	\$235,379,259	\$225,721,975	\$246,909,696
b) Valuation Assets	246,577,567	243,271,514	244,728,050	241,207,722	239,280,740
2. End of Year Market Value Assets	205,994,725	235,379,259	225,721,975	246,909,696	295,388,098
3. Net Additions to Market Value					
a) Net Contributions	3,483,271	4,708,935	5,056,891	5,612,610	6,298,574
b) Net Investment Income = (3d) - (3a) - (3c)	42,482,215	35,749,975	(2,820,894)	28,124,646	55,996,498
c) Benefit Payments, Refunds, and Admin. Expenses	(10,145,847)	(11,074,376)	(11,893,281)	(12,549,535)	(13,816,670)
d) Total Additions to Market Value = (2) - (1a)	35,819,639	29,384,534	(9,657,284)	21,187,721	48,478,402
4. Average Valuation Assets = (1b) + .5 x [(3a) + (3c)]	243,246,279	240,088,794	241,309,855	237,739,260	235,521,692
5. Expected Income at Valuation Rate = 7.5% x (4)	18,243,471	18,006,660	18,098,239	17,830,445	17,664,127
6. Gain/(Loss) = (3b) - (5)	24,238,744	17,743,315	(20,919,133)	10,294,201	38,332,371
7. Phased-In Recognition of Investment Return					
a) Current Year: 0.2 x (6)	4,847,749	3,548,663	(4,183,827)	2,058,840	7,666,474
b) First Prior Year	(19,091,928)	4,847,749	3,548,663	(4,183,827)	2,058,840
c) Second Prior Year	97,164	(19,091,928)	4,847,749	3,548,663	(4,183,827)
d) Third Prior Year	413,668	97,164	(19,091,928)	4,847,749	3,548,663
e) Fourth Prior Year	(1,153,601)	413,669	97,166	(19,091,927)	4,847,748
f) Total Recognized Investment Gain	(14,886,948)	(10,184,683)	(14,782,177)	(12,820,502)	13,937,898
8. Change in Valuation Assets (3a) + (3c) + (5) + (7f)	(3,306,053)	1,456,536	(3,520,328)	(1,926,982)	24,083,929
9. End of Year Assets					
a) Market Value = (2)	205,994,725	235,379,259	225,721,975	246,909,696	295,388,098
b) Valuation Assets = (1b) + (8)	243,271,514	244,728,050	241,207,722	239,280,740	263,364,669
c) Difference Between Market & Valuation Assets	(37,276,789)	(9,348,791)	(15,485,747)	7,628,956	32,023,429
10. Recognized Rate of Return = [(5) + (7f)] / (4)	1.38 %	3.26 %	1.37 %	2.11 %	13.42 %
11. Market Rate of Return = 2 x (3b) / [(1a) + (2) - (3b)]	25.46 %	17.63 %	(1.22)%	12.65 %	23.03 %

Retirees and Beneficiaries Comparative Schedule

Year Ended	Added to Rolls*		Removed from Rolls		Rolls End of Year		% Incr. in		Discounted		
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances	Annual Allowances	Average Allowance	Total	Average	
12/31/1989	22	\$ 211,970	@ 10	\$ 49,709	313	\$ 1,318,907	14.0	\$ 4,214	\$ 12,945,627	\$ 41,360	
12/31/1990	15	123,980	8	16,587	320	1,426,300	8.1	4,457	13,497,767	42,181	
12/31/1991	29	358,208	15	43,361	334	1,741,147	22.1	5,213	16,803,661	50,310	
12/31/1992	15	157,350	4	8,780	345	1,889,717	8.5	5,477	18,909,686	54,811	
12/31/1993	27	306,059	3	16,365	369	2,179,407	15.3	5,906	21,666,249	58,716	
12/31/1994	18	131,596	14	50,875	373	2,260,128	3.7	6,059	22,112,422	59,283	
12/31/1995	24	261,820	12	31,551	386	2,490,397	10.2	6,452	24,080,999	62,386	
12/31/1996	29	404,810	7	55,615	408	2,839,592	14.0	6,960	27,838,060	68,231	
12/31/1997	28	392,818	8	44,327	428	3,188,083	12.3	7,449	31,558,085	73,734	
12/31/1998	24	393,550	7	46,973	445	3,534,660	10.9	7,943	34,794,848	78,191	
12/31/1999	23	295,915	@ 29	83,717	439	3,746,858	6.0	8,535	36,670,326	83,531	
12/31/2000	46	645,474	27	201,656	458	4,190,676	11.8	9,150	40,970,172	89,455	
12/31/2001	31	732,306	@ 13	45,724	476	4,877,258	16.4	10,246	46,616,261	97,933	
12/31/2002	34	464,636	18	126,234	492	5,215,660	6.9	10,601	49,634,941	100,884	
12/31/2003	37	514,935	17	72,960	512	5,657,635	8.5	11,050	53,369,747	104,238	
12/31/2004	95	2,073,773	16	133,099	591	7,598,309	34.3	12,857	74,362,328	125,825	
12/31/2005	43	786,641	26	170,645	608	8,214,306	8.1	13,510	80,594,476	132,557	
12/31/2006	39	844,464	24	579,276	623	8,479,494	3.2	13,611	85,797,333	137,716	
12/31/2007	29	423,246	14	93,660	638	8,809,080	3.9	13,807	88,063,580	138,031	
12/31/2008	47	725,060	26	204,104	659	9,330,036	5.9	14,158	92,573,860	140,476	
12/31/2009	58	1,303,182	34	338,544	683	10,294,674	10.3	15,073	102,921,818	150,691	
12/31/2010	46	1,166,301	24	210,133	705	11,250,842	9.3	15,959	112,893,161	160,132	
12/31/2011	51	953,802	16	199,264	740	12,005,380	6.7	16,223	119,532,453	161,530	
12/31/2012	58	1,114,368	12	127,382	786	12,992,366	8.2	16,530	126,736,278	161,242	
12/31/2013	98	2,545,500	1	20,928	883	15,516,938	19.4	17,573	153,936,777	174,334	

* Includes survivors of deceased retirees.

@ Includes one-time benefit increases.

**Retirees and Beneficiaries December 31, 2013
Tabulated by Type of Benefit and Option Elected**

General County Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	126	10				136
A - 10 Year Certain	19					19
B - 100% J & S	85	8				93
C - 50% J & S	30					30
Social Security Equated*						
- Regular	10					10
- 10 Year Certain	1					1
- 100% J & S	7					7
- 50% J & S	3					3
Survivor	24	3		6		33
Total Pensions Being Paid	305	21		6		332

DWS Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	6					6
A - 10 Year Certain	1					1
B - 100% J & S	18	1				19
C - 50% J & S	5					5
Social Security Equated*						
- Regular						
- 10 Year Certain						
- 100% J & S						
- 50% J & S						
Survivor	1					1
Total Pensions Being Paid	31	1				32

* Upon attaining Social Security Age, these members are re-characterized as non-Social Security equated options.

**Retirees and Beneficiaries December 31, 2013
Tabulated by Type of Benefit and Option Elected
(Continued)**

Library Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	19					19
A - 10 Year Certain	2					2
B - 100% J & S	9					9
C - 50% J & S	5					5
Social Security Equated*						
- Regular						
- 10 Year Certain						
- 100% J & S						
- 50% J & S						
Survivor				1		1
Total Pensions Being Paid	35			1		36

BABH Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	46	2	1			49
A - 10 Year Certain	7	1				8
B - 100% J & S	30	4				34
C - 50% J & S	11					11
Social Security Equated*						
- Regular	4					4
- 10 Year Certain	1					1
- 100% J & S	2					2
- 50% J & S	1					1
Survivor	3	1		2		6
Total Pensions Being Paid	105	8	1	2		116

* Upon attaining Social Security Age, these members are re-characterized as non-Social Security equated options.

Retirees and Beneficiaries December 31, 2013
Tabulated by Type of Benefit and Option Elected
(Continued)

MCF Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	80	5				85
A - 10 Year Certain	5					5
B - 100% J & S	44	9				53
C - 50% J & S	39					39
Social Security Equated*						
- Regular	4					4
- 10 Year Certain	1					1
- 100% J & S	4					4
- 50% J & S	3					3
Survivor	10	1		1		12
Total Pensions Being Paid	190	15		1		206

Sheriff Department Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	10	2	2			14
A - 10 Year Certain		1				1
B - 100% J & S	16	2	2			20
C - 50% J & S	4					4
Social Security Equated*						
- Regular	6	1				7
- 10 Year Certain	2					2
- 100% J & S	5					5
- 50% J & S	1					1
Survivor	11	2		2		15
Total Pensions Being Paid	55	8	4	2		69

* Upon attaining Social Security Age, these members are re-characterized as non-Social Security equated options.

**Retirees and Beneficiaries December 31, 2013
Tabulated by Type of Benefit and Option Elected
(Concluded)**

Road Commission Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	11		1			12
A - 10 Year Certain	1	1				2
B - 100% J & S	41	3	2			46
C - 50% J & S	5					5
Social Security Equated*						
- Regular	1					1
- 10 Year Certain						
- 100% J & S	5					5
- 50% J & S						
Survivor	15	4		2		21
Total Pensions Being Paid	79	8	3	2		92

* Upon attaining Social Security Age, these members are re-characterized as non-Social Security equated options.

Retirees and Beneficiaries December 31, 2013
Tabulated by Attained Age

Attained Age	Age & Service		Disability		Survivor of Death-in-Service		Total	
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances
35 - 39	3	\$ 58,041	1	\$ 3,960			4	\$ 62,001
40 - 44			2	47,128			2	47,128
45 - 49	4	71,385	5	74,766			9	146,151
50 - 54	27	839,986	5	76,626	3	\$ 72,974	35	989,586
55 - 59	87	2,466,098	18	270,732	4	89,671	109	2,826,501
60 - 64	186	4,016,343	11	157,429	3	76,220	200	4,249,992
65 - 69	167	3,094,721	13	179,479			180	3,274,200
70 - 74	111	1,773,254	4	49,877			115	1,823,131
75 - 79	80	923,051	4	17,171	2	30,081	86	970,303
80	13	136,579					13	136,579
81	18	189,270	3	25,587			21	214,857
82	14	126,601	1	13,014			15	139,615
83	7	36,074	1	6,076			8	42,150
84	10	105,800	1	3,844			11	109,644
85	10	112,716					10	112,716
86	8	46,135			1	11,159	9	57,294
87	13	91,667					13	91,667
88	9	64,340			1	2,858	10	67,198
89	7	41,050					7	41,050
90	6	30,312					6	30,312
91	5	24,675					5	24,675
92	3	11,856					3	11,856
93	5	27,312					5	27,312
96	2	7,239					2	7,239
97	2	6,116					2	6,116
99	1	3,452					1	3,452
100	1	1,971					1	1,971
101	1	2,242					1	2,242
Totals	800	\$14,308,286	69	\$925,689	14	\$282,963	883	\$15,516,938

Average Age at Retirement: 58.0 years
Average Age Now: 68.8 years

Inactive Members

An inactive member is a person who has left County Employment with entitlement to a retirement allowance after attaining voluntary retirement age. Inactive members, as of December 31, 2013, totaled 94, as follows:

<u>Valuation Division</u>	<u>Number</u>	<u>Estimated Annual Deferred Pensions</u>
General County	39	\$461,653
DWS	1	4,494
Library	7	39,430
BABH	27	403,209
Medical Care Facility	15	126,084
Sheriff's Department	3	45,927
Road Commission	<u>2</u>	<u>28,659</u>
Total	94	\$1,109,456

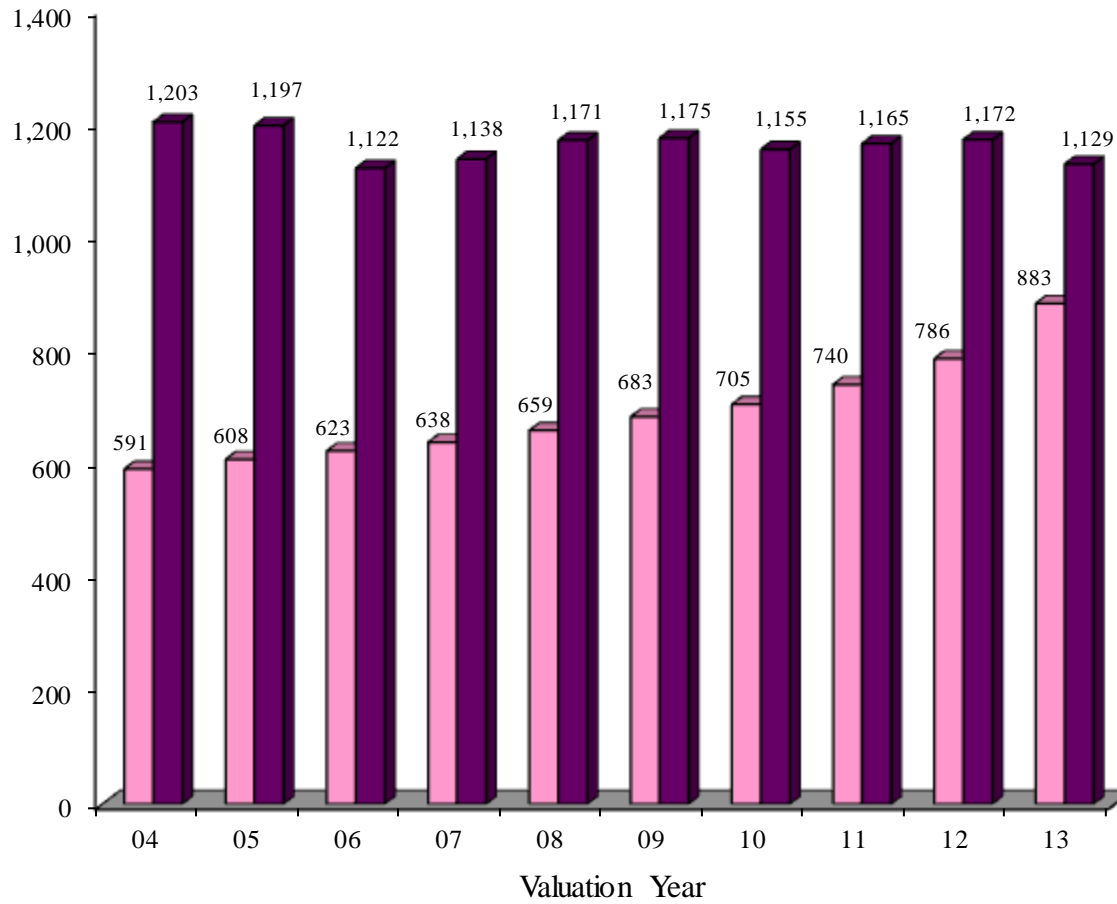
The schedule on the next page is an age distribution of the inactive members.

**Inactive Members December 31, 2013
Tabulated by Attained Age**

Attained Age	No.	Estimated Deferred Allowances
35	3	\$ 37,800
36	1	8,184
41	1	8,671
43	6	71,349
44	1	19,058
45	1	12,828
46	3	58,152
47	8	82,789
48	6	81,743
49	4	30,016
50	5	67,242
51	5	27,708
52	4	27,055
53	9	109,735
54	6	73,166
55	3	43,792
56	5	44,569
57	6	154,541
58	8	74,469
59	6	49,296
60	3	27,293
Total	94	\$1,109,456

Active Members & Benefit Recipients

Covered Persons



Benefit Recipients Active Members

Active Members December 31, 2013 Tabulated by Valuation Division

Valuation Division	Number	Annual Payroll
General County	351	\$13,790,955
DWS	36	2,001,839
Library	41	1,780,332
BABH	219	10,392,494
Medical Care Facility	350	9,911,517
Sheriff's Department	76	3,779,701
Road Commission	56	2,878,870
Total Active Members	1,129	\$44,535,708

Comparative Schedule

Valuation Date	Active Members								Valuation Payroll	Average		
	Gen.	DWS	Library	BABH	M.C.F.	Sheriff's	Road	Total		Age	Service	Pay
12/31/1994	644				257	72	75	1,048	\$27,358,462	42.9	9.8	\$26,105
12/31/1995	662				264	73	74	1,073	28,878,179	43.1	10.0	26,913
12/31/1996	676				279	73	73	1,101	30,677,224	42.8	10.0	27,835
12/31/1997	688				283	76	74	1,121	32,216,234	43.1	10.0	28,739
12/31/1998	713				286	77	72	1,148	34,308,505	43.4	10.1	29,885
12/31/1999	718				284	76	73	1,151	35,763,978	43.7	10.4	31,072
12/31/2000	742				300	77	75	1,194	38,314,967	43.4	10.0	32,090
12/31/2001	465	40	63	180	296	78	75	1,197	39,761,644	43.8	10.3	33,218
12/31/2002	465	42	64	195	308	80	74	1,228	41,331,916	44.0	10.5	33,658
12/31/2003	456	41	67	206	302	76	76	1,224	43,053,950	44.7	10.7	35,175
12/31/2004	427	41	72	208	303	76	76	1,203	43,550,999	44.3	10.3	36,202
12/31/2005	429	41	74	211	293	75	74	1,197	43,104,046	44.7	10.5	36,010
12/31/2006	412	41	30	205	292	75	67	1,122	42,024,045	45.0	11.1	37,455
12/31/2007	415	39	39	216	288	74	67	1,138	44,687,752	45.3	11.3	39,269
12/31/2008	410	38	42	235	305	75	66	1,171	46,482,897	45.3	11.4	39,695
12/31/2009	407	39	45	253	297	76	58	1,175	47,244,573	45.1	11.3	40,208
12/31/2010	389	37	45	261	295	74	54	1,155	47,090,560	45.4	11.4	40,771
12/31/2011	378	38	44	274	298	77	56	1,165	48,583,176	45.3	11.2	41,702
12/31/2012	365	39	42	276	319	75	56	1,172	48,571,798	45.0	11.1	41,444
12/31/2013	351	36	41	219	350	76	56	1,129	44,535,708	44.1	10.6	39,447

**General County Active Members December 31, 2013
by Attained Age and Years of Service**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	1							1	\$ 29,293
25-29	11	2						13	377,924
30-34	14	10	6					30	1,011,578
35-39	10	10	6	3				29	1,206,404
40-44	7	11	15	8	1			42	1,602,058
45-49	5	11	13	15	5	7		56	2,302,583
50-54	11	9	17	13	6	8	4	68	2,782,761
55-59	6	11	9	12	9	12	5	64	2,609,191
60		1	3		2		1	7	354,171
61	2	2	2	2	1	1		10	239,912
62	1	1	1	2	1	1	1	8	394,283
63		3	1	1		1		6	150,142
64	3	1	1	2		1	1	9	441,410
65		2		1				3	135,976
67		1		1				2	100,083
68			1	1				2	44,848
71							1	1	8,338
Totals	71	75	75	61	25	31	13	351	\$13,790,955

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 48.5 years

Service: 13.2 years

Annual Pay: \$39,290

**DWS Active Members December 31, 2013
by Attained Age and Years of Service**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
25-29	2							2	\$ 92,144
30-34	3							3	155,879
35-39	2			1				3	142,002
40-44	3	1	1		1			6	320,794
45-49		2		1	4			7	350,637
50-54	2	2	1		1			6	369,111
55-59	1		2		1	1	2	7	455,317
60						1		1	76,314
62		1						1	39,641
Totals	13	6	4	2	7	2	2	36	\$2,001,839

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 46.7 years

Service: 12.7 years

Annual Pay: \$55,607

**Library Active Members December 31, 2013
by Attained Age and Years of Service**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
25-29		1						1	\$ 22,114
30-34	2							2	87,888
35-39	1	1	1					3	116,172
40-44		3						3	121,477
45-49	1	1	3					5	262,337
50-54		3		1	1	1		6	251,857
55-59	1	2	4	1			3	11	457,182
60				2				2	67,787
61			2		1			3	116,843
64		2						2	139,746
65					1		1	2	96,411
67						1		1	40,518
Totals	5	13	10	4	3	2	4	41	\$1,780,332

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 51.9 years

Service: 14.0 years

Annual Pay: \$43,423

**BABH Active Members December 31, 2013
by Attained Age and Years of Service**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	3							3	\$ 95,665
25-29	11	1						12	432,774
30-34	21	9	3					33	1,450,768
35-39	14	6	7	1				28	1,342,618
40-44	19	8	10	4				41	1,816,507
45-49	9	4	8	4	4	1		30	1,518,376
50-54	15	5	10	2	1	5	1	39	2,018,807
55-59	6	5	5	2	2	1	2	23	1,015,994
60			1					1	35,247
61		1						1	53,062
62	1	2						3	149,438
63	1							1	54,858
64	1							1	46,972
65		2						2	157,965
66	1							1	203,443
Totals	102	43	44	13	7	7	3	219	\$10,392,494

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 43.9 years

Service: 8.0 years

Annual Pay: \$47,454

**Medical Care Facility Active Members December 31, 2013
by Attained Age and Years of Service**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
15-19	9							9	\$ 78,836
20-24	52							52	976,760
25-29	39	13						52	1,212,565
30-34	23	14	4					41	1,166,970
35-39	22	6	5	4	1			38	1,217,833
40-44	13	4	3	3	4			27	908,165
45-49	6	4	9	1	6	6	1	33	1,224,932
50-54	14	8	9	5	4	4	3	47	1,519,154
55-59	6	6	2	4	6		2	26	812,598
60	1		1	1	2			5	126,048
61	2		1		3			6	155,842
62	1	1	1	2		1		6	323,455
63	1	1						2	79,235
64	1		1					2	27,745
65	1		1					2	49,030
70			1					1	20,075
71	1							1	12,274
Totals	192	57	38	20	26	11	6	350	\$9,911,517

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 38.8 years

Service: 7.7 years

Annual Pay: \$28,319

**Sheriff's Department Active Members December 31, 2013
by Attained Age and Years of Service**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-15	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	3							3	\$ 100,652
25-29	5	1						6	252,695
30-34	4	7	1					12	581,976
35-39	2	2	5	3				12	618,378
40-44	3		3	8	1			15	783,947
45-49	1	1	3	6	4	1		16	839,772
50-54		1			3	1		5	234,505
55-59			1	2	1			4	201,135
61						1		1	38,064
63							1	1	56,899
64							1	1	71,678
Totals	18	12	13	19	9	3	2	76	\$3,779,701

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 41.2 years

Service: 12.8 years

Annual Pay: \$49,733

**Road Commission Active Members December 31, 2013
by Attained Age and Years of Service**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-15	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
25-29	4							4	\$ 157,657
30-34	1		1					2	69,252
35-39	1		1					2	93,415
40-44	3	1		2	1			7	411,552
45-49	1	1	3	3	6	2		16	905,933
50-54		5	2	4	2	3		16	855,933
55-59			1	2	1	4		8	371,709
70		1						1	13,419
Totals	10	8	8	11	10	9		56	\$2,878,870

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 47.4 years

Service: 15.3 years

Annual Pay: \$51,408

SECTION D

ACTUARIAL COST METHODS AND ACTUARIAL ASSUMPTIONS

Valuation Methodology

Normal Cost/Accrued Liability. Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry-age actuarial cost method having the following characteristics:

- (i) the annual normal costs for each individual active member, payable from date of hire to the member's projected date of retirement, are sufficient to accumulate the actuarial present value of the member's anticipated benefit at the time of retirement; and
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Amortization of Unfunded Actuarial Accrued Liabilities. Unfunded Actuarial Accrued Liabilities (UAAL) or asset surpluses were amortized as a level dollar amount for the Library and as level percent-of-payroll contributions (principal and interest combined) for all other groups as follows: If the liabilities exceed the assets (unfunded liabilities), the difference is amortized over a closed period of 29 years; if the assets exceed the liabilities (overfunding) the difference is amortized over an open period of 10 years. The amortization method was first adopted for the December 31, 2012 actuarial valuation. The increase in UAAL associated with the BABH Early Retirement Incentive Program was amortized over a closed period of 10 years, starting with the December 31, 2013 valuation. The UAAL payment reflects any payments expected to be made between the valuation date and the date contributions determined by this report are scheduled to begin. Active member payroll was assumed to increase 3.5% for the purpose of determining the level-percent contributions.

Asset valuation method. The actuarial value equals:

- (a) Actuarial value of assets from the previous valuation, plus
- (b) employer and member contributions since the last valuation, minus
- (c) benefit payments and refunds since the last valuation, plus
- (d) estimated investment income at the assumed investment return, plus
- (e) portion of gain/(loss) recognized in the current valuation.

For the above purpose, gain/(loss) is defined as the excess during the period of the investment return on the market value of assets over the expected investment income. Twenty percent of the difference is recognized over a 5-year period in the actuarial value of assets.

This method was first adopted for the December 31, 2003 actuarial valuation.

Actuarial Assumptions Used for the Valuation

Investment Return (net of investment expenses).

4.0% per year in excess of pay inflation. If pay inflation matches the assumption of 3.5%, this implies a 7.5% rate of return. This assumption was first adopted for the December 31, 2012 actuarial valuation and is used to equate the value of payments due at different points in time. Approximate rates of investment return, for the purpose of comparisons with assumed rates, are shown below. Actual increases in average active member pay are also shown for comparative purposes.

	Year Ended December 31					5 Year Average*
	2013	2012	2011	2010	2009	
Rate of Investment Return	13.4 %	2.1 %	1.4 %	3.3 %	1.4 %	4.2 %
Average Increase in Pay#	<u>2.5</u>	<u>2.4</u>	<u>4.0</u>	<u>2.7</u>	<u>3.1</u>	<u>2.9</u>
Real Rate of Return	10.9	(0.3)	(2.6)	0.6	(1.7)	1.3

* *Compound rate of increase.*

Based on employees active during both years.

The nominal rate of return was computed using the approximate formula $i = I$ divided by $1/2 (A + B - I)$, where I is actual investment income net of expenses, A is the beginning of year asset value, and B is the end of year asset value.

Please note that this analysis uses asset values and investment income as defined for the actuarial valuation which deals with market value changes on a gradual basis.

These rates of return should not be used for measurement of an investment advisor's performance or for comparisons with other systems.

Pay Projections. These assumptions are used to project current pays to those upon which benefits will be based. In addition to the Merit and Longevity rates shown in the table, members are also assumed to receive a base increase of 3.5%.

Years of Service	Annual Rate of Pay Increase for Merit & Longevity						
	General	DWS	Library	BABH	MCF	Sheriff's	Road Commission
1	3.75%	3.75%	3.75%	3.75%	0.75%	6.00%	6.00%
2	3.00%	3.00%	3.00%	3.00%	0.75%	5.25%	3.75%
3	2.25%	2.25%	2.25%	2.25%	0.75%	5.25%	3.75%
4	2.25%	2.25%	2.25%	2.25%	0.75%	4.50%	3.75%
5	0.75%	0.75%	0.75%	0.75%	0.75%	3.75%	0.75%
6+	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%

If the number of active members remains constant, the total active member payroll will increase by about the level of pay inflation (assumed to be 3.5% per year). This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities. The payroll growth assumptions were first adopted for the December 31, 2012 actuarial valuation.

Changes actually experienced in pays have averaged as follows:

Year Ended December 31					5 Year Average*
2013	2012	2011	2010	2009	
2.5%	2.4%	4.0%	2.7%	3.1%	2.9%

* *Compound rate of increase.*

Lump sum payments. Lump sum payments for unused sick leave and vacation were assumed to increase final average compensation by 4.5% for the General and Library groups, 5% for the BABH group, 6% for the Sheriff's group, 7.0% for the DWS group, 7.5% for the Medical Care Facility, and 9.0% for the Road Commission. The lump sum payment assumptions were first adopted for the December 31, 2012 actuarial valuation.

Mortality. This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. The RP-2000 Mortality Combined Healthy Tables, projected 20 years with U.S. Population Scale BB (multiplied by 75% for pre-retirement mortality and 110% for post-retirement mortality for both males and females) were used for healthy lives. The present values and the life expectancy at various ages under this mortality table are shown below:

Sample Ages	Actuarial Present Value of \$1 Monthly for Life*		Future Life Expectancy (Years)^	
	Men	Women	Men	Women
50	\$143.50	\$146.82	32.15	34.70
55	136.00	140.26	27.56	30.04
60	126.67	131.76	23.16	25.50
65	115.39	121.27	19.01	21.19
70	102.07	109.03	15.16	17.19
75	86.95	95.23	11.66	13.58
80	70.84	80.10	8.62	10.36

* These present value amounts were calculated using a 7.5% interest rate and post-retirement mortality.

^ These life expectancies are based on post-retirement mortality.

The RP-2000 Mortality Combined Healthy Tables, projected 20 years with U.S. Population Scale BB with ages set forward 10 years was used for disabled lives.

The mortality assumptions were first adopted for the December 31, 2012 actuarial valuation. The mortality rates were adjusted to include margin for future mortality improvements as described in the table shown above.

Administration Expenses. Non-investment administration expenses are assumed to average 0.4% of payroll annually. This assumption is unchanged from previous valuations. This assumption was not changed as a result of the experience study.

Active Member Group Size. The number of active members was assumed to remain constant for all groups except the Library which is closed to future hires. This assumption is unchanged from previous valuations for all groups except the Library.

Rates of separation from active membership. The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment. This assumption was first adopted for the December 31, 2012 actuarial valuation.

Sample Ages	Years of Service	% of Active Members Separating within Next Year					Road	
		General	DWS	Library	BABH	MCF	Sheriff's*	Commission*
ALL	0	15.00%	15.00%	15.00%	15.00%	25.00%	N/A	N/A
	1	9.00	9.00	9.00	9.00	25.00	N/A	N/A
	2	9.00	9.00	9.00	9.00	15.00	N/A	N/A
	3	8.00	8.00	8.00	8.00	12.50	N/A	N/A
	4	8.00	8.00	8.00	8.00	8.75	N/A	N/A
20	5 & Over	7.50	7.50	7.50	7.50	7.50	4.50	4.50
25		7.50	7.50	7.50	7.50	7.50	4.50	4.50
30		7.00	7.00	7.00	7.00	5.00	3.75	3.90
35		7.00	7.00	7.00	7.00	5.00	2.25	2.30
40		4.00	4.00	4.00	4.00	3.75	1.50	0.90
45		3.00	3.00	3.00	3.00	2.50	1.50	0.50
50		2.00	2.00	2.00	2.00	2.00	1.25	0.50
55		2.00	2.00	2.00	2.00	2.00	0.75	0.50
60	2.00	2.00	2.00	2.00	2.00	0.75	0.50	

* These groups do not have service based rates of separation. All rates of separation are based on ages.

Rates of Disability. These rates represent the probabilities of active members becoming disabled. This assumption was first adopted for the December 31, 2012 actuarial valuation.

Sample Ages	Percent Becoming Disabled within Next Year	
	Sheriff	All Other Groups
20	0.12 %	0.06 %
25	0.12	0.06
30	0.12	0.06
35	0.12	0.06
40	0.30	0.15
45	0.40	0.20
50	0.74	0.37
55	1.34	0.67
60	2.12	1.06

We assumed that 50% of disabilities are duty related and 50% are non-duty related for Sheriffs. For all other groups we assumed 85% of disabilities are non-duty related and 15% are duty related.

Rates of Retirement. These rates are used to measure the probabilities of an eligible member retiring during the next year.

Retirement Ages	Percent of Active Members Retiring within Next Year						
	General	DWS	Library	BABH	MCF	Sheriff's	Road Commission
50					20 %		15 %
51					20		15
52					20		25
53					20		25
54					20		25
55	20 %	25 %	15 %	15 %	30		25
56	15	20	10	10	40		15
57	15	20	10	10	50		15
58	15	20	10	10	50		15
59	15	20	10	10	50		15
60	30	35	25	25	30	15 %	15
61	25	30	20	20	30	15	15
62	15	20	10	10	50	30	35
63	15	20	10	10	25	15	35
64	15	20	10	10	25	15	35
65	30	35	25	25	100	100	100
66	15	20	10	10			
67	15	20	10	10			
68	15	20	10	10			
69	15	20	10	10			
70	100	100	100	100			

The following table shows the rates used for the Road Patrol and Road Patrol Supervisory Unit 25 & Out provision and the Correctional Facility Officers 55 & 25 provision.

25 & Out		55 & 25	
Years of Service	Sheriff's Road Patrol and Road Patrol Supervisory Unit	Age	Correctional Facility Officers
25	40%	55	40%
26	40	56	40
27	40	57	40
28	25	58	25
29	25	59	25
30	25	60	25
31	25	61	25
32	25	62	25
33	25	63	25
34	100	64	100

The following table shows the rates for the 55 & 8 and/or 55 & 10 Early Retirement provision:

55 & 8 and/or 55 & 10 Early Retirement			
Retirement			All Other
Ages	General	DWS	Groups
55	10 %	15 %	5 %
56	10	15	5
57	10	15	5
58	10	15	5
59	10	15	5

The retirement assumptions were first adopted for the December 31, 2012 actuarial valuation.

Miscellaneous and Technical Assumptions

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Six months after the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and death-in-service decrements do not operate during the first 5 years of service. Disability and withdrawal do not operate during retirement eligibility.
Normal Form of Benefit:	The assumed normal form of benefit is straight life form.
Loads:	Lump sum payments for unused sick leave and vacation. For current retirees who elected a joint and survivor form of payment with a pop-up, the liabilities are loaded 2% because the pop-up benefits are not provided in the data.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.

SECTION E

DISCLOSURE MATERIAL IN COMPLIANCE WITH STATEMENT NO. 25 OF THE GOVERNMENTAL ACCOUNTING STANDARDS BOARD

This information is presented in draft form for review by the System's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the System's financial statements.

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b) – (a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) – (a)] / (c)
12/31/2004 *	\$227,174,445	\$174,175,401	\$(52,999,044)	130.4 %	\$43,550,999	none %
12/31/2005	230,242,485	181,304,958	(48,937,527)	127.0	43,104,046	none
12/31/2006 *	237,681,108	189,810,766	(47,870,342)	125.2	42,024,045	none
12/31/2007 *	253,492,248	200,933,482	(52,558,766)	126.2	44,687,752	none
12/31/2008	246,577,567	212,530,757	(34,046,810)	116.0	46,482,897	none
12/31/2009	243,271,514	221,407,973	(21,863,541)	109.9	47,244,573	none
12/31/2010 *	244,728,050	231,625,254	(13,102,796)	105.7	47,090,560	none
12/31/2011 *	241,207,722	241,791,817	584,095	99.8	48,583,176	0.01
12/31/2012 #	239,280,740	245,269,867	5,989,127	97.6	48,571,798	0.12
12/31/2013 *	263,364,669	262,118,015	(1,246,654)	100.5	44,535,708	none

* Plan amended.

Certain assumptions or methods revised.

Actuarial Cost Method

Individual Entry Age Normal Cost.

Amortization Method

Level dollar amount for Library
Level percent-of-payroll for all other groups

Amortization periods

29 years closed for groups that are underfunded (unfunded accrued liability is positive). 10 years open for groups that are overfunded (unfunded accrued liability is negative). 10 years closed for BABH ERIP.

Asset Valuation Method

Market value with 5 year smoothing of gains and losses.

Principal Actuarial Assumptions
(last revised for the 12/31/12 valuation):

- Net Investment Return 7.5%
- Projected Salary Increases 3.5% pay inflation plus merit and longevity.
- Cost-of-Living Adjustments None

Schedule of Employer Contributions

Plan Year Ended December 31	Fiscal Year Ended December 31	Annual Required Contribution
2004	2005	\$ 405,110
2005	2006	588,948
2006	2007	644,945
2007	2008	688,871
2008	2009	1,578,548
2009	2011	2,443,118
2010 ^	2012	3,074,891
2011	2013	4,289,438
2012	2014	4,038,100
2013	2015	2,897,774

^ Implementation of a one year lag between valuation date and first day of the fiscal year to which the contributions apply.

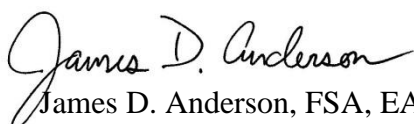
October 1, 2014

Ms. Rebecca Marsters
Retirement Administrator/Accountant
Bay County Employees' Retirement System
515 Center Avenue
Bay City, Michigan 48708

Dear Ms. Marsters:

Enclosed please find 20 copies of the report of the Sixty-Eighth Annual Actuarial Valuation for the Bay County Employees' Retirement System.

Sincerely,



James D. Anderson, FSA, EA, MAAA

JDA:mrb
Enclosures

cc: Mark Buis (GRS)
Shana Neeson (GRS)
Mr. Jerry Desloover (Rehman, Robson)