

**BAY COUNTY EMPLOYEES' RETIREMENT SYSTEM
SIXTY-FIFTH ANNUAL ACTUARIAL VALUATION REPORT
DECEMBER 31, 2010**

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September 22, 2011

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

Re: Bay County Employees' Retirement System Actuarial Valuation as of December 31, 2010

Dear Board Members:

The results of the December 31, 2010 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.

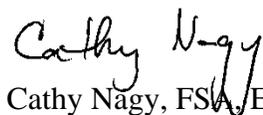
The purpose of the valuation is to measure the System's funding progress, to determine the employer contribution rate for the fiscal year ending December 31, 2010, and to determine the actuarial information for Governmental Accounting Standards Board (GASB) Statement No. 25.

Both of the undersigned actuaries 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, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Respectfully submitted,



Cathy Nagy, FSA, EA, MAAA



W. James Koss, ASA, EA, MAAA

CN/WJK:mrb

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, 2010.

SECTION A
EXECUTIVE SUMMARY

1. Required Employer Contributions - Fiscal Year Beginning January 1, 2012

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

Division	Valuation Year Fiscal Year	Contribution Rate		
		12/31/2009 1/1/2010	12/31/2009 1/1/2011	12/31/2010 1/1/2012
General County		0.00 %	0.00 %	1.19 %
DWS		7.40	7.40	11.71
Library		2.07	2.74	6.91
BABH		8.83	8.83	9.08
Medical Care Facility		4.63	5.05	7.36
Sheriff's Department		0.00	0.00	0.00
Road Commission		17.75	17.64	18.05

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	
	12/31/2009	12/31/2010
General County	116 %	112 %
DWS	99	87
Library	114	106
BABH	100	98
Medical Care Facility	109	104
Sheriff's Department	134	129
Road Commission	90	87

This year for all employment divisions combined valuation assets represent 105.7% of accrued liabilities; last year the ratio was 109.9%.

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 Road Commission divisions adopted various changes in the benefit provisions, these changes are described in Section C. There were no other changes in benefit provisions, valuation assumptions, or methods for the 2010 valuation.

4. 2010 Plan Experience

The aggregate experience during 2010 was unfavorable.

Investment return on the market value of assets for calendar year 2010 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. Partial recognition of this year's gain was not enough to completely offset continued phase-in of investment losses from prior years, resulting in the investment loss on the smoothed value of assets as shown below. The experience loss on investments and all other experience is quantified below.

Investment Gain (Loss)	\$(10,184,683)
Non-investment Gain (Loss)	<u>1,166,206</u>
Gain (Loss) from all causes	(9,018,477)

Non-investment experience for the plan as a whole was slightly favorable and partially offset the unfavorable investment experience.

The gain (loss) information is shown separately for each group on page B-6.

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

Although the System earned a healthy 17.6% market value asset return in 2010 the investment markets continue to be volatile.

The funding value of assets used to determine both the funded status and the required employer contribution, is based on a 5-year smoothed value of assets. This reduces the volatility of the valuation results. As of December 31, 2010 the funding value of assets was 104% of market value. This means that meeting the actuarial assumption in the next few years will require average future market returns that exceed the 7.5% investment return assumption.

To gauge the magnitude of the possible employer contribution required in the short term if future gains do not occur, it is instructive to look at the contribution rate that would have resulted if the valuation was based on the market value of assets. If the December 31, 2010 valuation results were based on market value of assets instead of smoothed funding value, the funded percent of the plan would be 102% (instead of 106%), and the employer contribution requirement would be \$4.2 million (instead of 3.1 million). If the investment markets do not turn around, the funded percent and employer contribution requirement can be expected to head in that direction.

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, 2012 are presented on page B-2.

**Contributions to Provide Benefits
Member Portion and Employer Portion
Fiscal Year Beginning January 1, 2012**

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	10.43 %	9.64 %	11.88 %	10.91 %	11.87 %	13.59 %	13.72 %	11.31 %
Disability	0.41	0.40	0.31	0.36	0.61	0.79	1.03	0.50
Death-in-service	0.47	0.62	0.42	0.43	0.26	0.48	0.85	0.45
Total	11.31	10.66	12.61	11.70	12.74	14.86	15.60	12.26
Member contributions#:								
Total	4.23	4.00	4.00	4.00	4.00	6.00	4.73	4.29
Future refunds	0.32	0.39	0.59	0.69	0.24	0.49	0.28	0.43
Available for pensions	3.91	3.61	3.41	3.31	3.76	5.51	4.45	3.86
Administrative expenses	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Employer normal cost	7.80	7.45	9.60	8.79	9.38	9.75	11.55	8.80
Unfunded accrued liability	(6.61)	4.26	(2.69)	0.29	(2.02)	(20.62)	6.50	(2.76)
Computed Employer Rate*	1.19	11.71	6.91	9.08	7.36	(10.87)	18.05	6.04

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.

* As the System cannot contribute back to the employer, the present recommended employer contribution for each group with a negative rate is 0% of pay. However, employer paid "member contributions" are still required.

Unfunded actuarial accrued liabilities were amortized as a level percent of member payroll over a period of 30 years and asset surpluses were amortized over 10 years for all other groups.

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.
- (2) Or contribute the dollars for each group based on the table shown below.

<u>Group:</u>	<u>General</u> <u>County</u>	<u>DWS</u>	<u>Library</u>	<u>BABH</u>	<u>Medical Care</u> <u>Facility</u>	<u>Sheriff's</u> <u>Department</u>	<u>Road</u> <u>Commission</u>	<u>Total</u>
Contribution:	\$ 196,454	\$ 240,226	\$ 139,284	\$ 1,244,223	\$ 706,017	\$ -	\$ 548,687	\$ 3,074,891

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	\$39,466,267	\$6,288,774	\$4,251,693	\$ 8,643,044	\$22,176,874	\$ 12,459,711	\$19,606,798	\$ 112,893,161
2. For vested terminated members	3,005,964	14,800	455,624	986,947	569,570	351,915	186,125	5,570,945
3. For present active members								
a. Value of expected future benefit payments	56,318,337	7,315,787	6,200,773	37,611,677	29,672,653	16,555,918	13,608,990	167,284,135
b. Value of future normal costs	15,470,530	1,801,510	2,008,663	14,249,194	10,020,260	5,554,454	5,018,376	54,122,987
c. Active member liability: (a) - (b)	40,847,807	5,514,277	4,192,110	23,362,483	19,652,393	11,001,464	8,590,614	113,161,148
4. Total actuarial accrued liability	83,320,038	11,817,851	8,899,427	32,992,474	42,398,837	23,813,090	28,383,537	231,625,254
B. Valuation assets	92,985,268	10,303,974	9,448,574	32,300,858	44,288,362	30,619,209	24,781,805	244,728,050
C. Unfunded accrued liability (Excess Assets): (A.4) - (B)								
	(9,665,230)	1,513,877	(549,147)	691,616	(1,889,525)	(6,806,119)	3,601,732	(13,102,796)
D. Funding ratio: (B) / (A.4)	111.6%	87.2%	106.2%	97.9%	104.5%	128.6%	87.3%	105.7%

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	\$ 39,466,267	\$37,672,533	\$ 1,793,734
DWS	6,288,774	3,832,082	2,456,692
Library	4,251,693	3,306,690	945,003
BABH	8,643,044	7,303,712	1,339,332
Medical Care Facility	22,176,874	20,674,892	1,501,982
Sheriff's Department	12,459,711	11,013,162	1,446,549
Road Commission	19,606,798	17,531,259	2,075,539
Total	\$112,893,161	\$101,334,330	\$11,558,831

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, 2011 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 unfavorable investment performance. Demographic experience varied by division.

The Retirement System continues to come out of an overfunded position (assets exceeding liabilities). 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.

COMMENT C: Another chart following these comments shows the experience gain (loss) for 2010. Non-investment experience during 2010 was favorable, with the exception of the DWS and Library divisions. The development of the investment gain/loss is shown on page B-7.

Determination of Experience Gain (Loss) Year Ended December 31, 2010

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	\$(12,551,071)	\$ 51,683	\$(1,136,475)	\$ 141,618	\$(3,472,392)	\$(7,791,113)	\$ 2,894,209	\$(21,863,541)
(2) Normal cost for the year 2010	1,834,640	213,567	250,098	1,617,844	1,183,114	583,807	465,697	6,148,767
(3) Actual employer & employee contributions	(1,182,251)	(262,125)	(114,189)	(1,648,268)	(758,900)	(98,566)	(644,636)	(4,708,935)
(4) Net interest accrual on (1), (2) and (3)	(917,161)	2,077	(80,200)	9,494	(244,713)	(566,356)	210,436	(1,586,423)
(5) Expected UAAL before changes: (1) + (2) + (3) + (4)	(12,815,843)	5,202	(1,080,766)	120,688	(3,292,891)	(7,872,228)	2,925,706	(22,010,132)
(6) Change from benefit increases	-	-	-	-	-	-	(111,141)	(111,141)
(7) Change from revised actuarial assumptions or methods	-	-	-	-	-	-	-	-
(8) Expected UAAL after changes: (5) + (6) + (7)	(12,815,843)	5,202	(1,080,766)	120,688	(3,292,891)	(7,872,228)	2,814,565	(22,121,273)
(9) Actual UAAL at end of year	(9,665,230)	1,513,877	(549,147)	691,616	(1,889,525)	(6,806,119)	3,601,732	(13,102,796)
(10) Gain (Loss): (8) - (9)	(3,150,613)	(1,508,675)	(531,619)	(570,928)	(1,403,366)	(1,066,109)	(787,167)	(9,018,477)
(11) Actuarial accrued liabilities at start of year	80,378,442	10,178,487	8,329,580	30,670,099	40,806,705	22,942,877	28,101,783	221,407,973
(12) Gain (Loss) as a percent of actuarial accrued liabilities at start of year: (10)/(11)	(3.9)%	(14.8)%	(6.4)%	(1.9)%	(3.4)%	(4.6)%	(2.8)%	(4.1)%
(13) Investment Gain (Loss)	(3,880,092)	(426,396)	(394,754)	(1,311,265)	(1,848,427)	(1,280,458)	(1,043,291)	(10,184,683)
(14) Gain (Loss) from all other causes	729,479	(1,082,279)	(136,865)	740,337	445,061	214,349	256,124	1,166,206

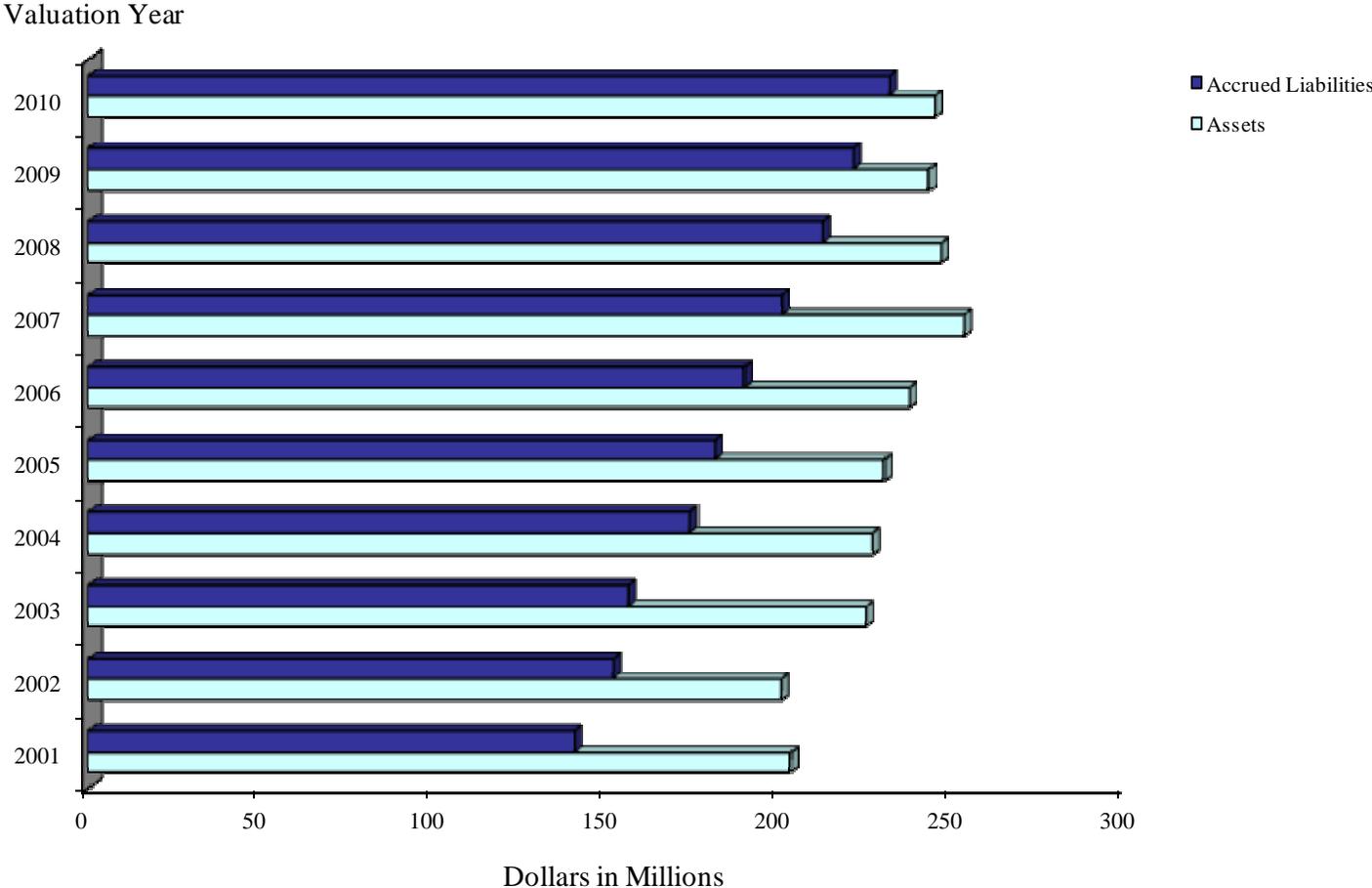
Development of Valuation Investment Gain (Loss) Year Ended December 31, 2010

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

(1) Total 2010 valuation investment income:	\$ 7,821,977
(2) Average valuation assets:	240,088,794
(3) Expected investment income: $(.075) \times (2)$	18,006,660
(4) Gain (Loss): $(1) - (3)$	(10,184,683)
(5) Valuation rate of return for 2010: $(1) / (2)$	3.26 %

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



2001 assets equaled 144.4% of accrued liabilities
 2010 assets equaled 105.7% of accrued liabilities

Computed Contributions - Comparative Statement

Valuation Date	Valuation Payroll			Annual Dollar Requirement	Employer Requirements As Percents of Valuation Payroll						
					General County	DWS+	Library+	BABH+	Medical Care Facility	Sheriff's Department	Road Commission
	Total	Average	% Incr.								
12/31/1991 *	\$24,215,604	\$23,811	3.7	\$ 901,602	1.85 %				2.92 %	3.80 %	19.24 %
12/31/1992 *	25,194,073	24,969	4.9	946,404	1.84				3.38	3.85	18.84
12/31/1993	26,304,070	25,688	2.9	994,327	1.84				3.41	3.94	18.64
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
12/31/2000 #	38,314,967	32,090	3.3	0	0.00				0.00	0.00	0
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	2,301,120	0.00	7.40	2.07	8.83	4.63	0.00	17.75
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

+ 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.

SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

Brief Summary of Plan Provisions as of December 31, 2010

No.	Division Name	Retirement Eligibility		
		Normal	Early	Deferred
1 2 3 4 5 6 7 8 9 15	Elected Officials and Department Heads Judges General County General Circuit Court General District Court General Probate Court BCAMPS USWA General USWA Part-Time Employees District Court AFSCME	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
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 18 19 23 24	Probate Court USWA Library - Employee Members of UWUA Local 542 General Library Behavioral Health AFSCME Behavioral Health General	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
30 31	ICEA/PARA 1203 ICEA/PARA 612	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
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 21 22	Medical Care Facility United Steel Workers Local 15301 Medical Care Facility RN & LPN Nursing Council General Medical Care Facility	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
25 26	Road Commission AFSCME Local 1096 Road Commission Class I Supervisory and Admin. Employees	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
28 29	Water and Sewer UWUA Local 546 Water and Sewer General	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

@ 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, 2010 (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, 16-22, 24, and 28-31 2.50% for divisions 11-13, 15, and 32 2.5% for service prior to 3/31/11; 2.25% for service after 3/31/11 for Division 26 2.5% for members hired before date of ratification; 2.25% for members hired after date of ratification – 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.

Brief Summary of Plan Provisions as of December 31, 2010 (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	
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) 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.	

Development of Valuation Assets December 31, 2010

	2006	2007	2008	2009	2010
1. Beginning of Year Assets					
a) Market Value	\$231,398,346	\$243,583,711	\$254,228,599	\$170,175,086	\$205,994,725
b) Valuation Assets	230,242,485	237,681,108	253,492,248	246,577,567	243,271,514
2. End of Year Market Value Assets	243,583,711	254,228,599	170,175,086	205,994,725	235,379,259
3. Net Additions to Market Value					
a) Net Contributions	1,751,661	1,829,466	2,095,200	3,483,271	4,708,935
b) Net Investment Income = (3d) - (3a) - (3c)	19,078,052	18,034,784	(76,722,629)	42,482,215	35,749,975
c) Benefit Payments, Refunds, and Admin. Expenses	(8,644,348)	(9,219,362)	(9,426,084)	(10,145,847)	(11,074,376)
d) Total Additions to Market Value = (2) - (1a)	12,185,365	10,644,888	(84,053,513)	35,819,639	29,384,534
4. Average Valuation Assets = (1b) + .5 x [(3a) + (3c)]	226,796,142	233,986,160	249,826,806	243,246,279	240,088,794
5. Expected Income at Valuation Rate = 7.5% x (4)	17,009,711	17,548,962	18,737,010	18,243,471	18,006,660
6. Gain (Loss) = (3b) - (5)	2,068,341	485,822	(95,459,639)	24,238,744	17,743,315
7. Phased-In Recognition of Investment Return					
a) Current Year: 0.2 x (6)	413,668	97,164	(19,091,928)	4,847,749	3,548,663
b) First Prior Year	(1,153,602)	413,668	97,164	(19,091,928)	4,847,749
c) Second Prior Year	1,413,892	(1,153,602)	413,668	97,164	(19,091,928)
d) Third Prior Year	4,880,950	1,413,892	(1,153,602)	413,668	97,164
e) Fourth Prior Year	(8,233,309)	4,880,952	1,413,891	(1,153,601)	413,669
f) Total Recognized Investment Gain	(2,678,401)	5,652,074	(18,320,807)	(14,886,948)	(10,184,683)
8. Change in Valuation Assets (3a) + (3c) + (5) + (7f)	7,438,623	15,811,140	(6,914,681)	(3,306,053)	1,456,536
9. End of Year Assets					
a) Market Value = (2)	243,583,711	254,228,599	170,175,086	205,994,725	235,379,259
b) Valuation Assets = (1b) + (8)	237,681,108	253,492,248	246,577,567	243,271,514	244,728,050
c) Difference Between Market & Valuation Assets	5,902,603	736,351	(76,402,481)	(37,276,789)	(9,348,791)
10. Recognized Rate of Return = [(5) + (7f)] / (4)	6.32%	9.92%	0.17%	1.38%	3.26%
11. Market Rate of Return = 2 x (3b) / [(1a) + (2) - (3b)]	8.37%	7.52%	(30.62%)	25.46%	17.63%

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 Value of Allowances	Average
12/31/1986	17	\$ 94,617	13	\$ 27,854	285	\$ 943,115	7.6	\$ 3,309	\$ 9,365,036	\$ 32,860
12/31/1987	24	153,108	16	38,098	293	1,058,125	12.2	3,611	10,557,818	36,034
12/31/1988	21	129,984	13	31,463	301	1,156,646	9.3	3,843	11,454,502	38,055
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

* Includes survivors of deceased retirees.

@ Includes one time benefit increases.

**Retirees and Beneficiaries December 31, 2010
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	117	9				126
A - 10 Year Certain	17					17
B - 100% J & S	58	7				65
C - 50% J & S	25					25
Social Security Equated*						
- Regular	9					9
- 10 Year Certain	2					2
- 100% J & S	7					7
- 50% J & S	3					3
Survivor	20	3		4		27
Total Pensions Being Paid	258	19		4		281

DWS Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	5					5
A - 10 Year Certain	1					1
B - 100% J & S	12					12
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	24					24

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

**Retirees and Beneficiaries December 31, 2010
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	17					17
A - 10 Year Certain	2					2
B - 100% J & S	7					7
C - 50% J & S	4					4
Social Security Equated*						
- Regular						
- 10 Year Certain						
- 100% J & S						
- 50% J & S						
Survivor				1		1
Total Pensions Being Paid	30			1		31

BABH Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	19	1	1			21
A - 10 Year Certain						
B - 100% J & S	13	3				16
C - 50% J & S	4					4
Social Security Equated*						
- Regular	1					1
- 10 Year Certain						
- 100% J & S	1					1
- 50% J & S						
Survivor	2	1		1		4
Total Pensions Being Paid	40	5	1	1		47

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

Retirees and Beneficiaries December 31, 2010
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	65	3				68
A - 10 Year Certain	5					5
B - 100% J & S	37	5				42
C - 50% J & S	36					36
Social Security Equated*						
- Regular	4					4
- 10 Year Certain	1					1
- 100% J & S	4					4
- 50% J & S	4					4
Survivor	8			1		9
Total Pensions Being Paid	164	8		1		173

Sheriff Department Retirees

Type of Pensions Being Paid	Type of Benefit					Total
	Age & Service	Disability		Death		
		Non-Duty	Duty	Non-Duty	Duty	
Regular	7	1	2			10
A - 10 Year Certain						
B - 100% J & S	13	2	2			17
C - 50% J & S	1					1
Social Security Equated*						
- Regular	6	1				7
- 10 Year Certain	2					2
- 100% J & S	4					4
- 50% J & S	1					1
Survivor	11	2		2		15
Total Pensions Being Paid	45	6	4	2		57

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

**Retirees and Beneficiaries December 31, 2010
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	12		1		13	
A - 10 Year Certain		1			1	
B - 100% J & S	39	3	2		44	
C - 50% J & S	5				5	
Social Security Equated*						
- Regular	1				1	
- 10 Year Certain						
- 100% J & S	5				5	
- 50% J & S						
Survivor	18	4		1	23	
Total Pensions Being Paid	80	8	3	1	92	

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

Retirees and Beneficiaries December 31, 2010
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
30 - 34	1	\$ 7,619	1	\$ 3,960			2	\$ 11,579
35 - 39			1	13,389			1	13,389
40 - 44	1	7,619	2	47,847			3	55,466
45 - 49	3	86,623	3	27,553	1	\$ 11,970	7	126,146
50 - 54	14	412,295	6	67,651	1	6,718	21	486,664
55 - 59	73	1,902,772	9	160,458	3	86,167	85	2,149,397
60 - 64	166	3,323,864	15	202,697	1	4,290	182	3,530,851
65 - 69	119	2,131,527	3	34,577			122	2,166,104
70 - 74	93	1,114,849	6	68,825	1	24,810	100	1,208,484
75 - 79	70	744,783	6	45,754	1	5,271	77	795,808
80	7	36,074	1	6,076			8	42,150
81	11	110,893	1	3,844			12	114,737
82	10	112,716					10	112,716
83	8	46,135			1	11,159	9	57,294
84	13	91,667					13	91,667
85	11	85,109			1	2,858	12	87,967
86	7	41,050					7	41,050
87	6	30,312					6	30,312
88	7	38,117					7	38,117
89	6	27,153					6	27,153
90	5	27,312					5	27,312
93	2	7,239					2	7,239
94	2	6,116					2	6,116
95	1	7,820					1	7,820
96	1	3,452					1	3,452
97	1	1,971					1	1,971
98	1	2,242					1	2,242
99	1	5,205					1	5,205
100	1	2,434					1	2,434
Totals	641	\$10,414,968	54	\$682,631	10	\$153,243	705	\$11,250,842

Average Age at Retirement: 58.0 years
Average Age Now: 68.7 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, 2010, totaled 86, as follows:

<u>Valuation Division</u>	<u>Number</u>	<u>Estimated Annual Deferred Pensions</u>
General County	41	\$449,777
DWS	1	4,494
Library	6	64,209
BABH	18	178,680
Medical Care Facility	14	89,924
Sheriff's Department	4	57,794
Road Commission	<u>2</u>	<u>28,659</u>
Total	86	\$873,537

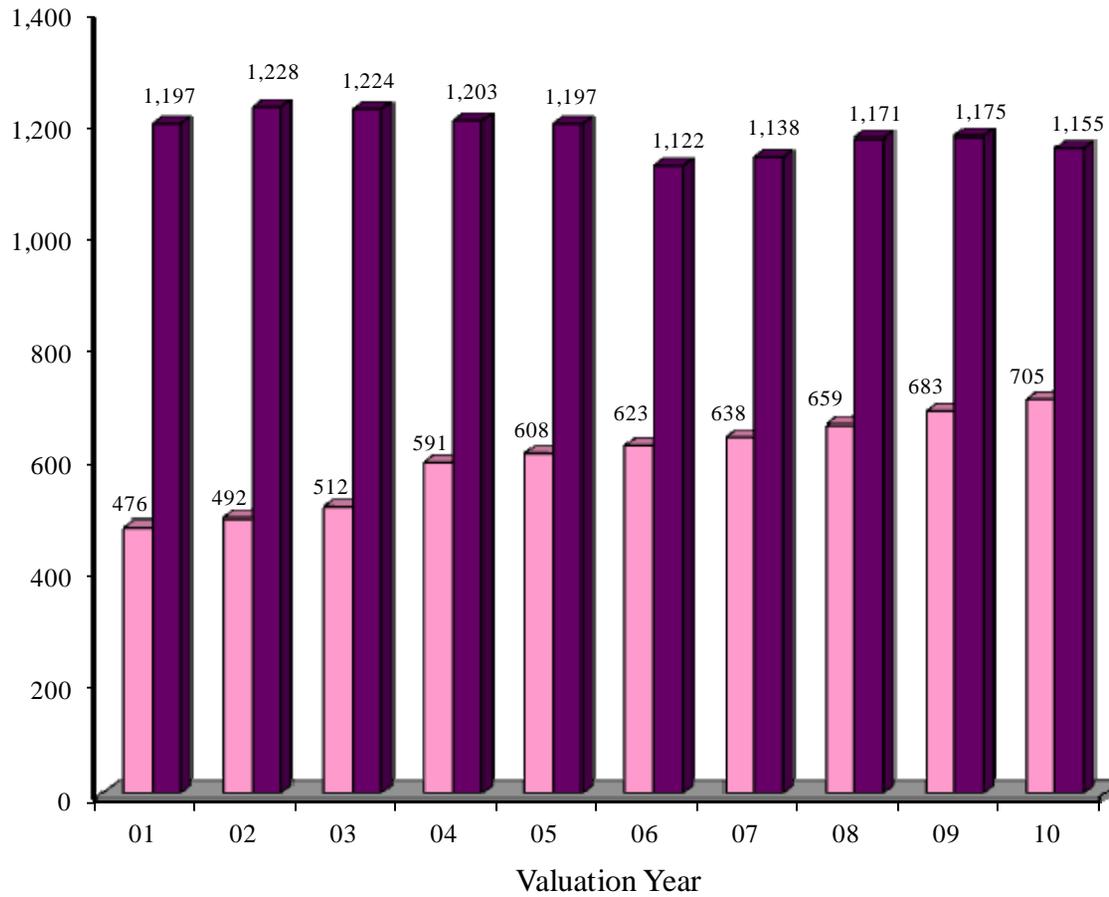
The schedule on the next page is an age distribution of the inactive members.

**Inactive Members December 31, 2010
Tabulated by Attained Age**

Attained Age	No.	Estimated Deferred Allowances
33	1	\$ 8,184
40	3	22,755
43	2	29,052
44	5	39,973
45	5	54,988
46	3	24,028
47	5	67,242
48	6	35,829
49	4	27,055
50	5	54,546
51	5	47,471
52	2	12,087
53	5	42,085
54	5	73,725
55	8	66,609
56	6	58,504
57	6	59,469
58	8	119,177
59	1	25,055
60	1	5,703
Total	86	\$873,537

Active Members & Benefit Recipients

Covered Persons



Benefit Recipients Active Members

Active Members December 31, 2010 Tabulated by Valuation Division

Valuation Division	Number	Annual Payroll
General County	389	\$15,263,226
DWS	37	1,896,691
Library	45	1,863,618
BABH	261	12,669,100
Medical Care Facility	295	8,868,924
Sheriff's Department	74	3,718,519
Road Commission	54	2,810,482
Total Active Members	1,155	\$47,090,560

Comparative Schedule

Valuation Date	Active Members								Valuation Payroll	Average		
	Gen.	DWS	Library	BABH	M.C.F.	Sheriff's	Road	Total		Age	Service	Pay
12/31/1991	637				241	68	71	1,017	\$24,215,604	41.6	8.9	\$23,811
12/31/1992	625				243	72	69	1,009	25,194,073	42.2	9.4	24,969
12/31/1993	624				258	71	71	1,024	26,304,065	42.5	9.5	25,688
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	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	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

**General County Active Members December 31, 2010
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	2							2	\$ 39,721
25-29	7	8						15	426,998
30-34	20	10	3					33	1,164,888
35-39	12	6	13	2				33	1,147,370
40-44	6	21	18	6	1			52	2,062,027
45-49	5	12	17	9	17	7	1	68	2,713,282
50-54	9	16	18	10	12	11	4	80	3,320,936
55-59	3	15	11	14	9	4	8	64	2,737,645
60	1	4		1	1	1		8	257,602
61	2	2	1	1		2	1	9	498,144
62	1	2	1		1			5	224,264
63		1	1					2	106,002
64		1	1	2		1		5	251,079
65		1	1	1				3	73,601
67	1	1		1				3	128,874
68							1	1	8,673
72							1	1	45,724
75				1				1	9,166
76				1				1	14,151
78					1			1	10,448
79			1		1			2	22,631
Totals	69	100	86	49	43	26	16	389	\$15,263,226

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

Age: 48.0 years

Service: 12.9 years

Annual Pay: \$39,237

**DWS Active Members December 31, 2010
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	\$ 87,998
35-39	1	1	1					3	122,121
40-44	1				4			5	240,712
45-49	2	4	2		2			10	512,876
50-54			1	1		2		4	222,333
55-59	2	2			3	4	1	12	659,868
60						1		1	50,783
Totals	8	7	4	1	9	7	1	37	\$1,896,691

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

Age: 48.8 years

Service: 14.9 years

Annual Pay: \$51,262

**Library Active Members December 31, 2010
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	\$ 33,366
30-34	3		1					4	148,025
35-39	2							2	80,301
40-44	3	1	1					5	222,499
45-49	2	2		1		1		6	254,981
50-54	1	3	3				1	8	305,645
55-59	1		6	2			2	11	447,165
60					1			1	34,046
61	1	1			1			3	176,474
62			1	1			1	3	122,021
64						1		1	39,095
Totals	14	7	12	4	2	2	4	45	\$1,863,618

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

Age: 50.3 years

Service: 11.9 years

Annual Pay: \$41,414

BABH Active Members December 31, 2010
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	2							2	\$ 40,458
25-29	20	1						21	772,165
30-34	14	9	2					25	1,090,437
35-39	18	9	7					34	1,557,008
40-44	11	7	9	4	1			32	1,618,577
45-49	12	7	6	3	10	2		40	1,886,454
50-54	10	10	8	2	9	9		48	2,452,233
55-59	7	8	9	5	8	2	1	40	2,032,950
60		3			2		1	6	414,664
61	1	1				1		3	121,516
62	2			1				3	192,207
63	1		3					4	399,449
64	1			1				2	75,330
73					1			1	15,652
Totals	99	55	44	16	31	14	2	261	\$12,669,100

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

Age: 45.5 years

Service: 9.8 years

Annual Pay: \$48,541

**Medical Care Facility Active Members December 31, 2010
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	1							1	\$ 24,253
20-24	35							35	700,554
25-29	21	11	1					33	753,517
30-34	15	6	6	2				29	843,982
35-39	11	3	9	6				29	916,844
40-44	13	2	4	2	4	2		27	875,487
45-49	12	11	6	4	7	3		43	1,468,816
50-54	6	11	10	5	7	5	4	48	1,575,030
55-59	3	11	4	4	8	3		33	1,130,630
60	2	1	1					4	164,592
61	1	1	2					4	131,635
62		1		1	1		1	4	131,442
63			1					1	42,915
64			1					1	40,889
65		1						1	26,749
66		1						1	15,511
67		1						1	26,078
Totals	120	61	45	24	27	13	5	295	\$8,868,924

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

Age: 41.6 years

Service: 9.4 years

Annual Pay: \$30,064

**Sheriff's Department Active Members December 31, 2010
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	6							6	\$ 236,921
30-34	4	7	2					13	621,848
35-39	1	3	8	2				14	728,151
40-44	1	2	7	4				14	767,539
45-49		1	4	3	3			11	528,025
50-54		1			3	1	1	6	326,340
55-59		1	1	2	2	1		7	328,243
60						1		1	56,864
61							1	1	73,500
66				1				1	51,088
Totals	12	15	22	12	8	3	2	74	\$3,718,519

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

Age: 41.7 years

Service: 13.1 years

Annual Pay: \$50,250

**Road Commission Active Members December 31, 2010
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	1							1	\$ 32,169
25-29	2	1						3	110,098
30-34		1						1	49,990
35-39	2		1					3	149,002
40-44	1	3	2	5	1			12	642,588
45-49	1	4	2	5		4		16	816,286
50-54	1	2	2	2	6	2		15	839,628
55-59			1					1	43,826
60				1				1	79,862
61				1				1	47,033
Totals	8	11	8	14	7	6		54	\$2,810,482

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

Age: 45.7 years

Service: 14.0 years

Annual Pay: \$52,046

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;
- (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 by level percent-of-payroll contributions (principal and interest combined) as follows: If the liabilities exceed the assets (unfunded liabilities), the difference is amortized over 30 years; if the assets exceed the liabilities (overfunding) the difference is amortized over 10 years. These periods are re-established with each annual actuarial valuation. The amortization method was first adopted for the December 31, 2003 actuarial 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 4.0% 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

All of the assumptions listed below were first adopted for the December 31, 2003 actuarial valuation.

Investment Return (net of investment expenses).

3.5% per year in excess of pay inflation. If pay inflation matches the assumption of 4.0%, this implies a 7.5% rate of return.

This assumption 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*
	2010	2009	2008	2007	2006	
Rate of Investment Return	3.3 %	1.4 %	0.2 %	9.9 %	6.3 %	4.2 %
Average Increase in Pay#	<u>2.7</u>	<u>3.1</u>	<u>4.3</u>	<u>4.8</u>	<u>2.6</u>	<u>3.5</u>
Real Rate of Return	0.6	(1.7)	(4.1)	5.1	3.7	0.7

* *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 4.0%.

Years of Service	Annual Rate of Pay Increase for Merit & Longevity						Road
	General	DWS	Library	BABH	MCF	Sheriff's	Commission
1	5.00%	5.00%	5.00%	5.00%	1.00%	8.00%	8.00%
2	4.00%	4.00%	4.00%	4.00%	1.00%	7.00%	5.00%
3	3.00%	3.00%	3.00%	3.00%	1.00%	7.00%	5.00%
4	3.00%	3.00%	3.00%	3.00%	1.00%	6.00%	5.00%
5	1.00%	1.00%	1.00%	1.00%	1.00%	5.00%	1.00%
6+	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%

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 4.0% per year). This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

Changes actually experienced in pays have averaged as follows:

Year Ended December 31					5 Year
2010	2009	2008	2007	2006	Average*
2.7%	3.1%	4.3%	4.8%	2.6%	3.5%

* *Compound rate of increase.*

Lump sum payments: Lump sum payments for unused sick leave and vacation were assumed to increase final average compensation by 6.0% for the General, DWS, Library, BABH, and Sheriff's groups. For the Medical Care Facility, we have assumed an increase of 10.0% and for the Road Commission the assumed increase in final average compensation was 10.5%.

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 1994 Group Annuity Mortality Table with ages set back one year for both men and women 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	\$142.36	\$148.41	31.62	35.84
55	134.46	142.12	27.04	31.11
60	124.60	133.88	22.67	26.49
65	113.00	123.84	18.60	22.11
70	100.30	112.29	14.97	18.08
75	86.40	98.51	11.72	14.31
80	71.54	83.08	8.87	10.93

* These present value amounts were calculated using a 7.5% interest rate.

The 1994 Group Annuity Mortality Table with ages set forward 2 years was used for disabled lives.

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. This assumption is unchanged from previous valuations.

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.

Sample Ages	Years of Service	% of Active Members Separating within Next Year					Road Sheriff's* Commission*	
		General	DWS	Library	BABH	MCF		
ALL	0	15.00%	15.00%	15.00%	15.00%	20.00%	N/A	N/A
	1	9.00	9.00	9.00	9.00	20.00	N/A	N/A
	2	9.00	9.00	9.00	9.00	12.00	N/A	N/A
	3	8.00	8.00	8.00	8.00	10.00	N/A	N/A
	4	8.00	8.00	8.00	8.00	7.00	N/A	N/A
20	5 & Over	7.50	7.50	7.50	7.50	6.00	6.00	4.50
25		7.50	7.50	7.50	7.50	6.00	6.00	4.50
30		7.00	7.00	7.00	7.00	4.00	5.00	3.90
35		7.00	7.00	7.00	7.00	4.00	3.00	2.30
40		4.00	4.00	4.00	4.00	3.00	2.00	0.90
45		3.00	3.00	3.00	3.00	2.00	2.00	0.50
50		2.00	2.00	2.00	2.00	1.50	1.50	0.50
55	2.00	2.00	2.00	2.00	1.50	1.00	0.50	
60	2.00	2.00	2.00	2.00	1.50	1.00	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 is unchanged from previous valuations.

Sample Ages	Percent Becoming Disabled within Next Year
20	0.08 %
25	0.08
30	0.08
35	0.08
40	0.20
45	0.26
50	0.49
55	0.89
60	1.41

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						Road
	General	DWS	Library	BABH	MCF	Sheriff's	Commission
50					10 %		10 %
51					10		10
52					10		20
53					10		20
54					10		20
55	15 %	15 %	15 %	15 %	20		20
56	10	10	10	10	30		10
57	10	10	10	10	40		10
58	10	10	10	10	40		10
59	10	10	10	10	40		10
60	25	25	25	25	20	15 %	10
61	20	20	20	20	20	15	10
62	10	10	10	10	40	30	30
63	10	10	10	10	15	15	30
64	10	10	10	10	15	15	30
65	25	25	25	25	100	100	100
66	10	10	10	10			
67	10	10	10	10			
68	10	10	10	10			
69	10	10	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	
Ages	All
55	5 %
56	5
57	5
58	5
59	5

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)
12/31/2001 #	\$203,173,855	\$140,669,845	\$(62,504,010)	144.4 %	\$39,761,644	none
12/31/2002	200,785,857	151,663,479	(49,122,378)	132.4	41,331,916	none
12/31/2003 #	225,029,045	156,241,874	(68,787,171)	144.0	43,053,950	none
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

* Plan amended.

Certain assumptions or methods revised.

Actuarial Cost Method

Individual Entry Age Normal Cost.

Amortization Method

Level percent of payroll, open periods.

Amortization periods

30 years for groups that are underfunded (unfunded accrued liability is positive).
10 years for groups that are overfunded (unfunded accrued liability is negative).

Asset Valuation Method

Market value with 5 year smoothing of gains and losses.

Principal Actuarial Assumptions

(last revised for the 12/31/03 valuation):

- Net Investment Return 7.5%
- Projected Salary Increases 4% 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
2001	2002	\$ 0
2002	2003	0
2003	2004	0
2004	2005	405,110
2005	2006	588,948
2006	2007	644,945
2007	2008	688,871
2008	2009	1,578,548
2009	2010	2,301,120
2009	2011	2,443,118
2010	2012	3,074,891

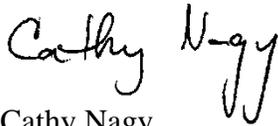
September 22, 2011

Ms. Danean Wright, Staff Accountant
Bay County Employees' Retirement System
515 Center Avenue, Suite 706
Bay City, Michigan 48708

Dear Ms. Wright:

Enclosed please find 25 copies of the report of the Sixty-Fifth Annual Actuarial Valuation for the Bay County Employees' Retirement System.

Sincerely,



Cathy Nagy

CN:mr
Enclosures

cc: W. James Koss – GRS
Mr. Jerry Deslover – Rehman, Robson