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City of Milwaukee
Policemen's Annuity and Benefit Fund

Actuarial Valuation Report

As of

January 1, 2013

June, 2013

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June 11, 2013

Annuity and Pension Board
Employes' Retirement System of
the City of Milwaukee
789 N. Water St., #300
Milwaukee, WI 53202

Members of the Board:

This report presents the results of the annual actuarial valuation of the assets and liabilities of the Policemen's Annuity and Benefit Fund of Milwaukee (PABF) as of January 1, 2013, prepared in accordance with Chapter 36, Part 15(15) of the Milwaukee City Charter. The valuation takes into account all of the promised benefits to which members were entitled as of January 1, 2013.

The valuation was based on the actuarial assumptions and methods as adopted by the Board of Trustees, and as specified by the Charter. Actuarial Standards of Practice now require that the likelihood and extent of future mortality improvements be considered for valuations performed on or after June 30, 2011. We have reflected future mortality improvements in this valuation.

Assets and Membership Data

The individual data for members of the PABF as of the valuation date were reported to the actuary by the Employes Retirement System (ERS). While we did not verify the data at their source, we did perform tests for internal consistency and reasonability. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the ERS.

Financing Objective and Employer Contribution

The results of the January 1, 2013 valuation determine the employer contribution for the year ending December 31, 2013.

Based on the provisions of Chapter 35, the annual contribution consists of an amount sufficient to amortize the unfunded actuarial liability (the amount by which the actuarial liability exceeds the assets on the valuation date) over a ten-year period with a series of level dollar payments; plus budgeted administrative expenses for the year.

On this basis, the contribution for the 2013 plan year, to be paid January 31, 2014, would amount to $227,796 plus budgeted administrative expenses for the year.

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Financial Results and Membership Data

Detailed summaries of the financial results of the valuation, including a 20-year projection of assets, liabilities, benefit payments and contribution requirements (excluding future administrative expense requirements), and of the membership data used in preparing the valuation are shown in the valuation report.

As shown in Table 3, the Fund is projected to become insolvent sometime in 2015, which is in concurrence with the insolvency date determined in the January 1, 2012 actuarial valuation.

It is not uncommon for a fund that is closed to new entrants where a large percentage of the assets are paid out in benefits to become insolvent before all benefit payments are made. That is the case for the PABF. For PABF, the insolvency was exacerbated by the downturn in asset values during calendar year 2008. Consideration could be given to reviewing the current funding policy to ensure that it is still in line with the Board's funding and solvency objectives. Given the small magnitude of the benefit payments to be made after the projected insolvency date in 2015, it would not be unreasonable to consider allowing the plan sponsor to fund the plan as benefit payments come due.

To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice.

Respectfully submitted,

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Introduction

The law governing the Policemen's Annuity and Benefit Fund (PABF) requires the Actuary, as the technical advisor to the Annuity and Pension Board, to make an annual valuation of the funds and liabilities of the Fund, and to determine and certify the annual contribution to be derived from the tax levy. {Chapter 35, Part 1(12)}. Buck Consultants, as Actuary, has completed the annual actuarial valuation of the System as of January 1, 2013.

In this report we present the results of the January 1, 2013 valuation and the contribution to be derived from the tax levy for the year ending December 31, 2013. For purposes of disclosure, the report also includes the schedule of employer contributions and schedule of funding progress as required by GASB Statement No. 25. The benefit provisions recognized in this valuation are those in place as of the valuation date.

The valuation was completed based upon membership and financial data provided by the administrative staff of the System. The mortality and investment return assumptions used to prepare the valuation were adopted as of January 1, 2013, and are based on the experience study prepared by the Actuary and approved by the Board for the City of Milwaukee Employees' Retirement System (CMERS) for the five-year period ended December 31, 2011. The actuarial asset valuation method was adopted as of January 1, 2005.

Changes Since Last Year

The interest rate assumption used for this year's valuation was 8.50% return for calendar years 2000 through 2012, 8.25% for calendar years 2013 through 2017, and 8.50% beginning with calendar year 2018, as opposed to 8.50% which was used last year. The mortality table was updated to the RP-2000 Combined Mortality Table with mortality improvements projected to the year 2009 for males and females, include full generational projection using mortality improvement Scale AA. These changes resulted from the experience study prepared by the Actuary and approved by the Board for the City of Milwaukee Employees' Retirement System (CMERS) for the five-year period ended December 31, 2011.

Summary of Principal Results

Summarized below are the principal financial results for the Policeman's Annuity and Benefit Fund of Milwaukee based upon the actuarial valuation as of January 1, 2013. Comparable results from the January 1, 2012 valuation are also shown.

Item	January 1, 2013	January 1, 2012
Number of Participants		
➢ Active Members	0	0
➢ Annuitants	20	23
➢ Widow Annuitants	40	47
➢ Total Number of Participants	60	70
Benefits Paid in the Prior Year	$ 715,206	$ 765,365
Asset Values (includes contributions receivable)		
➢ Actuarial Value	$ 650,910	$ 1,007,534
➢ Market Value	$ 650,910	$ 1,007,534
Actuarially Determined Employer Contribution	Due 1/31/2014	Due 1/31/2013
➢ Annual Cost*	$ 227,796	$ 221,538
➢ As % of Prior Year Benefits Paid	31.85%	28.95%
*Plus budgeted administrative expenses		
Funded Status		
➢ Accrued Liability	$ 2,152,402	$ 2,451,276
➢ Actuarial (and Market) Value of Assets	650,910	1,007,534
➢ Unfunded (Overfunded) Accrued Liability	$ 1,501,492	$ 1,443,742
➢ Funded Ratio Based on Actuarial Value of Assets	30.2%	41.1%

Reasons for Change in the Funded Ratio

The funded ratio decreased from 41.1% as of January 1, 2012 to 30.2% as of January 1, 2013. The funded ratio was expected to decrease from 41.1% to 31.4% as of January 1, 2013 based on the results of the January 1, 2012 actuarial valuation. Participant mortality experience in the form of more benefits being payable as of January 1, 2013, as well as change in mortality assumptions, decreased the funded ratio from 31.4% to 28.6%. Asset experience in the form of actual returns of 20.38%, which was higher than the assumed return of 8.50%, then increased the funded ratio from 28.6% to 30.2%.

Table 1

Summary of Market Value of Plan Assets
As of January 1, 2013
(in dollars)

Item		Amount
1. Market Value of Assets as of January 1, 2012	$	1,007,534
2. Contributions During Year		
a. Member		-
b. Administrative Expenses		25,724
c. Tax Levy (receivable 1/31/2013)		222,761
d. Total		248,485
3. Disbursements During Year		
a. Benefit Payments and Refunds During Year		715,206
b. Admimistrative Expenses		25,724
c. Total		740,930
4. Investment Return		
a. Net Appreciation, Interest and Dividends		135,821
5. Market Value of Assets as of 1/1/2013 (Unaudited)		
(1) + (2d) - (3c) + (4)	$	650,910
6. Net Rate of Return		
a. Actual		20.38%
b. Expected		8.25%
c. Rate of Return Greater Than / (Less Than) Expected (a - b)		12.13%
d. Dollar Amount of Gain / (Loss) on Assets	$	81,617

GASB No. 25 Disclosure

Statement Number 25 of the Governmental Accounting Standards Board established reporting standards for the annual financial reports of defined benefit pension plans. The standards applied to the PABF effective with the January 1, 1997 valuation. The statement requires disclosure of the "schedule of funding progress" and the "schedule of employer contributions" in the System's financial statements.

The "Schedule of Funding Progress" (Table 2) shows historical trend information about the Fund's actuarial value of assets, the actuarial accrued liability and the unfunded actuarial accrued liability. The actuarial funded status is measured by comparing the actuarial value of assets (based on market value) with the accrued liability. The accrued liability is the present value of benefits accumulated to date under the PABF's funding method. On this basis, the PABF's funded ratio is 30.2% as of January 1, 2013. The funded ratio is based on an actuarial value of assets of $650,910, including a $221,538 receivable contribution for the 2012 plan year, and an accrued liability of $2,152,402.

The "Schedule of Employer Contributions" (Table 2) shows historical trend information about the annual required contributions (ARC) of the employer and the percentage of the ARC contributed to the System. The Fund's ARC is equal to the amortization of the unfunded actuarial accrued liability. The maximum period for amortizing the unfunded actuarial accrued liability permitted by GASB No. 25 is 30 years, and the ten-year level dollar amortization required by Chapter 35 Part 1(12) meets this standard. The employer contributions to the System are equal to 100% of the ARC.

Table 2

GASB Statement No. 25 Disclosure

Schedule of Funding Progress

Valuation as of January 1	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL) (a-AAL)	Funded Ratio (a/AAL)	Annuity Payroll (b)	UAAL as a Percentage of Annuity Payroll (UAAL / b)
2013	$650,910	$2,152,402	$1,501,492	30.2%	$715,206	209.94%
2012	$1,007,534	$2,451,276	$1,443,742	41.1%	$765,365	188.6%
2011	$1,584,173	$2,945,917	$1,361,744	53.8%	$894,264	152.3%
2010	$1,935,745	$3,686,621	$1,750,876	52.5%	$1,049,503	166.8%
2009	$2,147,172	$4,295,606	$2,148,434	50.0%	$1,276,716	168.3%

Schedule of Employer Contributions

Fiscal Year Ended December 31	**Annual Required Contribution (ARC)**	**Percentage Contributed**
2012	$221,538	100%
2011	$208,956	100%
2010	$268,667	100%
2009	$329,672	100%
2008	$41,423	100%

The information presented in the Schedule of Employer Contributions was determined as part of the actuarial valuation as of one year prior to the dates indicated (i.e., the contribution determined by the valuation completed as of January 1, 2008 was contributed for the fiscal year ending December 31, 2008).

Additional information as of the latest actuarial valuation follows:

Valuation Date:	January 1, 2013
Actuarial Cost Method:	Projected Unit Credit
Amortization Method:	Open; Level dollar
Remaining Amortization Period:	10 years
Asset Valuation Method:	Market Value

Actuarial Assumptions:

• Investment Rate of Return	8.50% return for calendar years 2000 through 2012, 8.25% for calendar years 2013 through 2017, and 8.50% beginning with calendar year 2018
• Projected Salary Increases	N/A
• Inflation Assumption	3.0%

Table 3

CITY OF MILWAUKEE
POLICEMEN'S ANNUITY AND BENEFIT FUND

PROJECTION OF ACTUARIAL LIABILITY AND ASSETS
FROM JANUARY 1, 2013 TO DECEMBER 31, 2032

BASED ON ROLLING 10-YEAR LEVEL DOLLAR AMORTIZATION OF UNFUNDED ACTUARIAL LIABILITY AND 8.25% PER ANNUM INVESTMENT RETURNS

Calendar Year	(A) Beg.-of-Year (BOY) Assets	(B) BOY Actuarial Liability	(C) Unfunded Actuarial Liability (B) - (A)	(D) Expected Benefit Payments	(E) Investment Earnings at 8.25%	(F) Contribution Receivable Jan 31 Next Year	(G) End-of-Year Assets (A) - (D) + (E) + (F)
2013	$ 650,910	$ 2,152,402	$ 1,501,492	$ 575,698	$ 28,652	$ 227,796	$ 331,660
2014	331,660	1,731,000	1,399,340	482,159	6,243	$ 212,298	68,042
2015	68,042	1,372,154	1,304,112	396,301	(11,923)	$ 197,851	(142,331)
2016	(142,331)	1,073,032	1,215,363	320,028	(26,092)	$ 184,387	(304,064)
2017	(304,064)	828,590	1,132,654	254,231	(36,679)	$ 171,839	(423,135)
2018	(423,135)	632,438	1,055,573	199,035	(44,181)	$ 160,144	(506,207)
2019	(506,207)	477,532	983,739	153,803	(49,122)	$ 149,246	(559,886)
2020	(559,886)	356,907	916,793	117,458	(52,003)	$ 139,090	(590,257)
2021	(590,257)	264,145	854,402	88,789	(53,278)	$ 129,624	(602,700)
2022	(602,700)	193,558	796,258	66,439	(53,333)	$ 120,803	(601,669)
2023	(601,669)	140,401	742,070	49,300	(52,492)	$ 112,582	(590,879)
2024	(590,879)	100,691	691,570	36,301	(51,018)	$ 104,920	(573,278)
2025	(573,278)	71,229	644,507	26,487	(49,114)	$ 97,780	(551,099)
2026	(551,099)	49,547	600,646	18,991	(46,930)	$ 91,126	(525,894)
2027	(525,894)	33,876	559,770	13,369	(44,576)	$ 84,925	(498,914)
2028	(498,914)	22,761	521,675	9,355	(42,144)	$ 79,145	(471,268)
2029	(471,268)	14,906	486,174	6,384	(39,702)	$ 73,759	(443,595)
2030	(443,595)	9,494	453,089	4,211	(37,293)	$ 68,740	(416,359)
2031	(416,359)	5,896	422,255	2,644	(34,946)	$ 64,062	(389,887)
2032	(389,887)	3,632	393,519	1,653	(32,689)	$ 59,702	(364,527)

DESCRIPTION OF ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Cost Method

The method of financing the System is prescribed in Chapter 35, Part 1(12) of the Milwaukee City Charter.

Method: Projected Unit Credit

Since the Fund is closed to new participants and all participants are retired, the Actuarial Accrued Liability (AAL) is equal to the Actuarial Present Value of benefits expected to be paid to and on behalf of current Annuitants and Widow Annuitants. The Unfunded Actuarial Accrued Liability (UAAL) is the difference between the AAL and the Actuarial Value of Assets. Based on the provisions of Chapter 35, the annual contribution consists of an amount sufficient to amortize the UAAL over a ten-year period with a series of level dollar payments, plus budgeted administrative expenses for the year. This funding method was adopted effective January 1, 2006.

Actuarial Value of Assets

The market value of assets is the value of investments if they were to be sold currently, plus the contribution receivable for the plan year just ended. The actuarial value of assets is equal to the market value of assets. This definition of the actuarial value of assets was adopted in 2005.

Actuarial Assumptions

Adopted Effective January 1, 2013

Interest Rate and Inflation

Interest: 8.50% return for calendar years 2000 through 2012, 8.25% for calendar years 2013 through 2017, and 8.50% beginning with calendar year 2018 (adopted 1/1/2013)

Inflation: 3.0% per annum

Post-Retirement Mortality

Male and Female: RP-2000 Combined Mortality Table with nine years of projected improvements, include full generational projection using mortality improvement Scale AA.

Table 4

CITY OF MILWAUKEE
POLICEMEN'S ANNUITY AND BENEFIT FUND

THE NUMBER AND ANNUAL BENEFITS PAYABLE TO
ANNUITANTS AND WIDOWS
AS OF JANUARY 1, 2013

Age	Annuitants		Widows		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
80			1	$ 6,000	1	$ 6,000
84			1	6,000	1	6,000
86			2	12,000	2	12,000
87			1	12,932	1	12,932
89			3	25,187	3	25,187
90	1	10,381	7	42,898	8	53,279
91	4	103,324	3	19,703	7	123,027
92	5	79,932	1	6,000	6	85,932
93	4	63,225	2	12,000	6	75,225
94	1	12,364	5	36,123	6	48,487
95	3	59,023	5	30,148	8	89,171
96			3	18,082	3	18,082
97	2	28,676	3	18,918	5	47,594
98			1	6,000	1	6,000
99			1	9,155	1	9,155
101			1	6,000	1	6,000
Total	20	$ 356,925	40	$ 267,146	60	$ 624,071