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March 20, 2015

Mr. Steven A. Corbeille
Finance Director/Treasurer
City of Manitowoc
900 Quay Street
Manitowoc, Wisconsin 54220-4543

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

Dear Mr. Corbeille:

Enclosed is our final report which presents the results of our calculations under Statement No. 45 of the Governmental Accounting Standards Board, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions," for the City of Manitowoc (excluding Public Utilities) Retiree Medical Benefit Program.

Sincerely,

A handwritten signature in purple ink that reads "Tim Bleick".

Timothy S. Bleick, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink that reads "Gerald R. Bernstein".

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

TSB/GRB/cw
Sent electronically—no hard copy mailed

Enclosure



CITY OF MANITOWOC
(excluding Public Utilities)

Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014

Prepared by:
Milliman, Inc.

Timothy S. Bleick, FSA, EA, MAAA
Principal and Consulting Actuary

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

March 20, 2015

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Table of Contents

Certification Letter

I.	Introduction and Purpose _____	1
II.	Cost Projection Results _____	2
III.	Methodology _____	5
IV.	Actuarial Cost Method _____	6
V.	Actuarial Assumptions _____	7
VI.	Data _____	9
VII.	Plan Provisions _____	10
VIII.	Glossary _____	11
	Appendix A: Rate Tables _____	13



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March 20, 2015

City of Manitowoc
900 Quay Street
Manitowoc, Wisconsin 54220-4543

**Re: Actuarial Valuation of Retiree Medical Benefits for City of Manitowoc
(excluding Public Utilities)**

Ladies and Gentlemen:

Pursuant to your request, we have completed an actuarial determination of the benefit cost and funded status relating to the future retiree medical benefits of the City of Manitowoc (excluding Public Utilities) as of January 1, 2014. The results of our calculations are set forth in the following report, as are the actuarial assumptions and methods on which our calculations have been made. Our determinations reflect the procedures and methods as prescribed in Statement No. 45 of the Governmental Accounting Standards Board, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions."

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

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

Milliman's work is prepared solely for the internal business use of the Plan Sponsor and the Plan's Trustees. Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception:

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

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

It is our understanding that no advance funding has been established for these benefits. The discount rate used in our calculations reflects this understanding.

The Patient Protection and Affordable Care Act of 2010 (ACA) has been reflected in this valuation with respect to the following:

March 20, 2015

Page 2

- Changes in design required by the ACA, including coverage of dependents to age 26, and the elimination of lifetime maximums to the extent that they have been adopted.
- Anticipation of fees and surcharges effective in future calendar years, including fees associated with the Patient-Centered Outcomes Research Trust Fund, reinsurance fees, and insured plan fees, to the extent applicable.
- Expectation of the excise tax on high cost health plans effective for plan years after 2017.

This report and its use are subject to the terms of our Consulting Services Agreement with the City of Manitowoc dated June 4, 2008.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the applicable Actuarial Standards of Practice.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

We further certify that, in our opinion, each actuarial assumption, method and technique used is reasonable taking into account the experience of the plan and reasonable expectations. Nevertheless, the emerging liabilities and costs of the plan will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions.

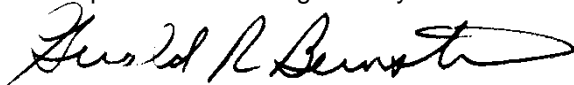
We, Timothy S. Bleick and Gerald R. Bernstein, are actuaries for Milliman, Inc. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. This report uses the expertise of Milliman healthcare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

Respectfully submitted,

Milliman, Inc.



Timothy S. Bleick, FSA, EA, MAAA
Principal and Consulting Actuary



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

TSB/GRB/cw

CITY OF MANITOWOC
(excluding Public Utilities)

Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014

I. INTRODUCTION AND PURPOSE

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

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

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

This material assumes that the reader is familiar with the City of Manitowoc's post-employment benefit programs, their benefits, eligibility, administration and other factors. The material was prepared solely to provide assistance to the City of Manitowoc in reviewing the impact of the GASB Statement on the City's financial statements. It may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. This material should only be reviewed in its entirety.

CITY OF MANITOWOC
(excluding Public Utilities)

Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014

II. COST PROJECTION RESULTS

The actuarial balance sheet is a demonstration of the basic actuarial equation that the actuarial present value of total projected benefits to be paid to the active, retired, and vested terminated participants must equal the assets on hand plus the actuarial present value of future contributions to be received. Accordingly, the status of the plan in balance sheet form as of January 1, 2014 and January 1, 2015 is shown below:

TABLE 1

	<u>January 1, 2014</u>	<u>January 1, 2015</u>
I. Actuarial Present Value of Total Projected Benefits		
183* Active Participants	\$682,659	\$703,537
9* Retired Participants	<u>144,465</u>	<u>123,505</u>
Grand Total Actuarial Present Value of Total Projected Benefits	\$827,124	\$827,042
II. Assets and Future Employer Contributions		
Assets	\$0	\$0
Unfunded Actuarial Accrued Liability	486,633	505,339
Present Value of Future Normal Costs (including the current year)	<u>340,491</u>	<u>321,703</u>
Total Assets and Future Employer Contributions	\$827,124	\$827,042

* Participant data as of January 1, 2014 is summarized in Section VI.2 of this report

Liabilities and contributions shown in this report are computed using the Unit Credit Method of funding. The objective under this method is to expense each participant's benefit under the plan as they accrue. At the time the Funding Method is introduced, there will be a liability which represents the contributions which would have been accumulated if this method of funding had always been used. The difference between this liability and the assets (if any) is the unfunded liability, which is typically funded over a chosen period in accordance with an amortization schedule. These calculations for 2014 and 2015 are shown below:

TABLE 2

	<u>2014</u>	<u>2015</u>
A. <u>Employer Normal Costs</u> (Unit Credit Actuarial Cost Method)		
(1) Current Year Normal Cost – January 1	\$28,158	\$29,003
(2) Assumed Interest to the End of the Year	<u>845</u>	<u>870</u>
(3) Current Year Normal Cost – December 31: [(1) + (2)]	\$29,003	\$29,873
B. <u>Determination of Current Year Amortization Payment</u>		
(1) Unfunded Actuarial Liability (see Table 1)	\$486,633	\$505,339
(2) Amortization Period	30 Years	30 Years
(3) Level Dollar Amortization Factor	20.1885	20.1885
(4) Amortization Amount – January 1: [(1) / (3)]	24,104	25,031
(5) Assumed Interest to the End of the Year	<u>723</u>	<u>751</u>
(6) Amortization Amount – December 31: [(4) + (5)]	\$24,827	\$25,782

This material assumes that the reader is familiar with the City of Manitowoc's post-employment benefit programs, their benefits, eligibility, administration and other factors. The material was prepared solely to provide assistance to the City of Manitowoc in reviewing the impact of the GASB Statement on the City's financial statements. It may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. This material should only be reviewed in its entirety.

CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

II. COST PROJECTION RESULTS *(continued)*

DISCLOSURES

TABLE 3

Fiscal Year-End	<u>12/31/2014</u>	<u>12/31/2015</u> ^{***}
I. Determination of Annual Required Contribution		
(1) Discount Rate at Beginning of Fiscal Year	3.00%	3.00%
(2) Normal Cost for Benefits Attributable to Service in the Year	\$29,003	\$29,873
(3) Amortization of Unfunded Actuarial Accrued Liability	<u>24,827</u>	<u>25,782</u>
(4) Annual Required Contribution (ARC): (2) + (3)	\$53,830	\$55,655
II. Net OPEB Obligation		
(1) Annual Required Contribution	\$53,830	\$55,655
(2) Interest on Net OPEB Obligation	34,665	34,852 ^{**}
(3) Adjustment to Annual Required Contribution*	<u>(57,235)</u>	<u>(57,545)</u> ^{**}
(4) Annual OPEB Cost (Expense)	\$31,260	\$32,962 ^{**}
(5) Contributions Made	<u>(25,000)</u> ^{**}	<u>(26,000)</u> ^{**}
(6) Increase in Net OPEB Obligation	\$6,260 ^{**}	\$6,962 ^{**}
(7) Net OPEB Obligation – Beginning of Year	<u>1,155,484</u>	<u>1,161,744</u> ^{**}
(8) Net OPEB Obligation – End of Year	\$1,161,744 ^{**}	\$1,168,706 ^{**}

III. OPEB History

<u>Fiscal Year Ended</u>	<u>Annual OPEB Cost</u>	<u>Percentage of Annual OPEB Cost Contributed</u>	<u>Net OPEB Obligation</u>
12/31/12	260,570	22.6%	951,529
12/31/13	268,953	24.2%	1,155,484
12/31/14	31,260	80.0% ^{**}	1,161,744 ^{**}
12/31/15	32,962	78.9% ^{**}	1,168,706 ^{**}

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

** We have assumed that the employer will contribute roughly the “pay-as-you-go” costs for the current year in this illustration. **Pay-as-you-go costs should be estimated total claim payments and administrative expenses paid by the employer on behalf of retirees, net of payments received from retirees.**

*** If a significant plan change or a significant change in the covered population occurs, these numbers will need to be revised.

Funded Status and Funding Progress. As of January 1, 2014, the most recent actuarial valuation date, the plan was 0% funded. The actuarial accrued liability for benefits was \$486,633, and the actuarial value of assets was \$0, resulting in an unfunded actuarial accrued liability (UAAL) of \$486,633.

CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

II. COST PROJECTION RESULTS *(continued)*

REQUIRED SUPPLEMENTARY INFORMATION

TABLE 4

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) – Unit Credit (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (b-a)/c
01/01/10	\$0	\$1,948,145	\$1,948,145	0.0%	N/A	N/A
01/01/12	\$0	2,917,061	2,917,061	0.0%	N/A	N/A
01/01/14	\$0	486,633	486,633	0.0%	N/A	N/A

TABLE 5

Cash Flow Projections, the Annual Undiscounted Cost of Retiree Medical Benefits Current Retiree Plus Current Active Employees

Year	Total
2014	\$25,000
2015	26,000
2016	19,000
2017	19,000
2018	17,000
2019	14,000
2020	12,000
2021	16,000
2022	21,000
2023	16,000

This material assumes that the reader is familiar with the City of Manitowoc's post-employment benefit programs, their benefits, eligibility, administration and other factors. The material was prepared solely to provide assistance to the City of Manitowoc in reviewing the impact of the GASB Statement on the City's financial statements. It may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. This material should only be reviewed in its entirety.

CITY OF MANITOWOC
(excluding Public Utilities)

Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014

III. METHODOLOGY

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

- (1) Estimate the number of current active employees that will be employed at the City of Manitowoc each year after January 1, 2014 until all current employees are either retired or no longer employed by the City of Manitowoc.
- (2) Project the number of retired participants that will be alive each year after January 1, 2014 until all participants are presumed to have exhausted their benefit eligibility.
- (3) Project the net retiree claim costs (and net administrative expenses) per participant for each year and for each age category using the January 1, 2014 estimated medical costs as a starting point and increasing the medical costs each year by the assumed annual rates of medical inflation.
- (4) Estimate the total net medical costs for each year as follows: (2) x (3)
- (5) Determine the total present value of the net medical costs by discounting (4) for each year back to January 1, 2014 at the assumed discount rate.

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

We based our calculations on the detailed census data provided. This data provided the age and gender for retirees and actives and spouse age for married retirees. For spouses of current active participants, we assumed the female was the same age as the male.

CITY OF MANITOWOC
(excluding Public Utilities)

Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014

IV. ACTUARIAL COST METHOD

Unit Credit Actuarial Cost Method

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

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

Actuarial liabilities and comparative costs shown in this Report were computed using the **Unit Credit Actuarial Cost Method**, which recognized the following cost components:

1. **The Normal Cost** is the Actuarial Present Value of benefits accruing during the valuation year. For purposes of this valuation, we have accrued costs through full eligibility age for the benefits provided or the fifth anniversary of employment.
2. **The Actuarial Accrued Liability** is the Actuarial Present Value of benefits accrued as of the valuation date.
3. **The Actuarial Value of Assets** is equal to the market value of assets as of the valuation date.
4. **The Unfunded Actuarial Accrued Liability** is amortized over 30 years from the valuation date on an open basis in level dollar payments.

CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

V. ACTUARIAL ASSUMPTIONS

The following actuarial assumptions were used in the development of the City of Manitowoc's retiree health cost projections. Where consistent with the terms of the plan, actuarial assumptions have utilized the assumptions for the Wisconsin Retirement System (WRS) as provided in the December 31, 2013 Actuarial Valuation reports.

1. **Interest Discount Rate:** 3.00% compounded annually.
2. **Mortality:**
 - Pre-Retirement: WRS mortality rates for active members. Separate rates for males and females as appropriate. Sample rates are shown in the rate table in Appendix A.
 - Post-Retirement: WRS mortality rates for retired members. Separate rates for males and females as appropriate. Sample rates are shown in the rate table in Appendix A.
 - Post-Disability: WRS mortality rates for disabled members. Separate rates for males and females as appropriate. Sample rates are shown in the rate table in Appendix A.
3. **Employee Turnover/Withdrawal:** Ten-year select and ultimate rates of WRS for Protective with Social Security for Police and Fire Department employees and General Employee for all other employees. Separate rates for males and females. Ultimate rates after the tenth year are shown in the rate table in Appendix A. Select rates are as follows:

Year	General Employee Male Rate	General Employee Female Rate	Protective with Social Security
1	17.5%	19.5%	15.0%
2	13.0%	13.5%	7.0%
3	8.5%	10.0%	4.3%
4	6.8%	8.0%	3.8%
5	6.0%	7.4%	3.4%
6	4.5%	6.0%	2.6%
7	4.0%	5.0%	2.5%
8	3.5%	4.5%	2.3%
9	3.0%	4.0%	2.0%
10	2.5%	3.8%	1.7%

4. **Disablement:** WRS disability rates for Protective with Social Security for Police and Fire Department employees and General Employee for all other employees. Separate rates for General Employees for males and females. Rates are shown in the rate table in Appendix A.
5. **Retirement:** WRS retirement rates for Protective with Social Security for Police and Fire Department employees and General Employee for all other employees.

This material assumes that the reader is familiar with the City of Manitowoc's post-employment benefit programs, their benefits, eligibility, administration and other factors. The material was prepared solely to provide assistance to the City of Manitowoc in reviewing the impact of the GASB Statement on the City's financial statements. It may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. This material should only be reviewed in its entirety.

CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

6. Percentage of Retirees Participating In Retiree Medical Coverage:

Future Retirees: 25% of current employees with medical coverage are expected to participate at retirement.

Current Retirees: Actual retiree participation.

7. Percentage of Retirees Electing Family Coverage:

Future retirees: 25% of future retirees that take coverage are assumed to elect family coverage.

Current retirees: Actual family coverage election.

8. Age Difference of Active Employees and Spouses: Females same age as male spouses.

9. Annual Medical Trend Rate Assumptions: Based on recent experience, the experience of medical insurers, Milliman's future trend expectations, and judgment. Adjustments have been made to reflect the expectation of the excise tax on high cost health plans effective for plan years after 2017.

Annual Trend Rate	
Year	Medical
2014	5.80%
2015	5.50%
2016	5.10%
2017	5.50%
2018	5.40%
2019	5.80%
2020	5.40%
2030	6.40%
2040	5.90%
Ultimate	4.40%

10. Expected 2014 Monthly Medical Costs per Retiree: We developed estimates of the 2014 monthly medical costs per retiree by age based on the City's current premium and claims experience, adjusted for demographic differences between retirees and all participants (actives and retirees combined).

Age	Male		Female	
	Single	Family	Single	Family
55	\$ 738	\$1,552	\$ 814	\$1,552
60	960	1,921	961	1,921
64	1,219	2,333	1,114	2,333

This material assumes that the reader is familiar with the City of Manitowoc's post-employment benefit programs, their benefits, eligibility, administration and other factors. The material was prepared solely to provide assistance to the City of Manitowoc in reviewing the impact of the GASB Statement on the City's financial statements. It may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. This material should only be reviewed in its entirety.

CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

VI. DATA

1. **Monthly 2014 Aggregate Retiree Premiums:** The aggregate current retiree premium rates paid by retirees as applicable are shown in the following table.

Monthly 2014 Health Insurance Premiums		
	Employee	Employee + 1
Pre-65	\$759.00	\$1,981.00

2. **Participant Data:** We relied on the following medical plan participant data as of January 1, 2014.

	Participant Count	Average Age	Average Service
Active Employees	183*	42.0	12.5
Retirees	9	60.0	

** Currently enrolling in the medical plan*

CITY OF MANITOWOC
(excluding Public Utilities)

Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014

VII. PLAN PROVISIONS

Retiree Eligibility and Benefits:

All employees who retire through the Wisconsin Retirement System are eligible to participate in the retiree medical plan if they pay 100% of the retiree premium. Coverage stops at age 65.

CITY OF MANITOWOC
(excluding Public Utilities)

Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014

VIII. GLOSSARY

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

1. **Actuarial Cost Method.** This is a procedure for determining the Actuarial Present Value of Benefits and allocating it to time periods to produce the Actuarial Accrued Liability and the Normal Cost. The Statement assumes a closed group of employees and other participants unless otherwise stated; that is, no new entrants are assumed. Six methods are permitted – Unit Credit, Entry Age Normal, Attained Age, Aggregate, Frozen Entry Age, and Frozen Attained Age.
2. **Actuarial Accrued Liability.** This is the portion of the Actuarial Present Value of Benefits attributable to periods prior to the valuation date by the Actuarial Cost Method (i.e., that portion not provided by future Normal Costs).
3. **Actuarial Present Value of Benefits.** This is the value, as of the applicable date, of future payments for benefits and expenses under the Plan, where each payment is:
 - (a) Multiplied by the probability of the event occurring on which the payment is conditioned, such as the probability of survival, death, disability, termination of employment, etc.; and
 - (b) Discounted at the assumed discount rate.
4. **Actuarial Value of Assets.** This is the value of cash, investments and other property belonging to the Plan, as used by the actuary for the purpose of an Actuarial Valuation.
5. **Amortization Payment.** This is the amount of the contribution required to pay interest on and to amortize over a given period the Unfunded Actuarial Accrued Liability or the Unfunded Frozen Actuarial Accrued Liability. A closed amortization period is a specific number of years counted from one date and reducing to zero with the passage of time; an open amortization period is one that begins again or is recalculated at each actuarial valuation date.
6. **Annual Required Contribution ("ARC").** This is the employer's periodic required contribution to a defined benefit OPEB plan, calculated in accordance with the set of requirements for calculating actuarially determined OPEB information included in financial reports.
7. **Attribution Period.** The period of an employee's service to which the expected postretirement benefit obligation for that employee is assigned. The beginning of the attribution period is the employee's date of hire. The end of the attribution period is the full retirement eligibility date. For disability retirement, the end of the attribution period is the date of disability.
8. **Benefit Payments.** The monetary or in-kind benefits or benefit coverage to which participants may be entitled under a postemployment benefit plan, including health care benefits and life insurance not provided through a pension plan.
9. **Funding Excess.** This is the excess of the Actuarial Value of Assets over the actuarial accrued liability.

CITY OF MANITOWOC
(excluding Public Utilities)

Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014

VIII. GLOSSARY *(continued)*

10. **Normal Cost.** This is the portion of the Actuarial Present Value of Benefits allocated to a valuation year by the Actuarial Cost Method.
11. **Net OPEB Obligation.** This is the cumulative difference since the effective date of this statement between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.
12. **Other Postemployment Benefits ("OPEB").** This refers to postemployment benefits other than pension benefits, including healthcare benefits regardless of the type of plan that provides them, and all other postemployment benefits provided separately from a pension plan, excluding benefits defined as termination benefits or offers.
13. **Return on Plan Assets.** This is the actual investment return on plan assets during the fiscal year.
14. **Substantive Plan.** The terms of the postretirement benefit plan as understood by an employer that provides postretirement benefits and the employees who render services in exchange for those benefits. The substantive plan is the basis for the accounting for the plan.
15. **Unfunded Actuarial Accrued Liability.** This is the excess of the actuarial accrued liability over the Actuarial Value of Assets.

CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

APPENDIX A: RATE TABLES

General Employee

Separations from active status expressed as number of occurrences per 10,000:

Age	Withdrawal		Early Retirement		Normal Retirement*		Death		Disability	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
25	N/A	N/A	0	0	0	0	2	1	1	1
26	N/A	N/A	0	0	0	0	2	1	1	1
27	N/A	N/A	0	0	0	0	2	1	1	1
28	N/A	N/A	0	0	0	0	2	1	1	2
29	N/A	N/A	0	0	0	0	2	1	1	2
30	250	330	0	0	0	0	2	1	1	3
31	250	320	0	0	0	0	3	2	1	3
32	250	300	0	0	0	0	3	2	1	3
33	240	290	0	0	0	0	3	2	1	3
34	220	280	0	0	0	0	4	2	1	4
35	210	280	0	0	0	0	4	2	1	4
36	190	270	0	0	0	0	4	2	1	4
37	180	260	0	0	0	0	5	3	2	4
38	170	250	0	0	0	0	5	3	2	4
39	170	240	0	0	0	0	5	3	3	5
40	160	220	0	0	0	0	5	3	4	5
41	160	210	0	0	0	0	6	4	5	6
42	150	200	0	0	0	0	6	4	5	6
43	140	190	0	0	0	0	6	4	6	6
44	140	190	0	0	0	0	7	5	7	7
45	130	180	0	0	0	0	7	5	7	7
46	130	180	0	0	0	0	8	6	7	8
47	120	170	0	0	0	0	8	6	7	8
48	120	170	0	0	0	0	9	6	10	9
49	120	160	0	0	0	0	9	7	13	10
50	110	160	0	0	0	0	10	8	15	11
51	110	150	0	0	0	0	11	9	17	12
52	110	150	0	0	0	0	14	10	20	13
53	110	150	0	0	0	0	16	11	23	15
54	110	150	0	0	0	0	19	12	25	18
55	0	0	800	610	0	0	22	13	29	20
56	0	0	800	640	0	0	25	15	32	22
57	0	0	430	420	2,000	1,700	27	16	35	25
58	0	0	530	550	2,000	1,700	28	17	39	27
59	0	0	550	530	2,000	1,700	30	18	43	27

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CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

General Employee

Separations from active status expressed as number of occurrences per 10,000:

Age	Withdrawal		Early Retirement		Normal Retirement*		Death		Disability	
	Male	Female	Male	Female	Male	Age	Male	Female	Male	Female
60	0	0	750	810	2,000	2,000	31	19	51	29
61	0	0	800	700	2,000	2,000	33	21	0	0
62	0	0	1,400	1,500	2,700	2,700	35	23	0	0
63	0	0	1,600	1,500	3,200	2,800	39	25	0	0
64	0	0	1,700	1,500	2,400	2,500	43	27	0	0
65	0	0	0	0	2,400	2,500	48	30	0	0
66	0	0	0	0	3,000	2,900	54	33	0	0
67	0	0	0	0	2,400	2,000	60	36	0	0
68	0	0	0	0	1,700	1,800	65	40	0	0
69	0	0	0	0	1,700	1,800	72	45	0	0
70	0	0	0	0	1,700	1,800	80	51	0	0
71	0	0	0	0	1,700	1,800	88	57	0	0
72	0	0	0	0	1,700	1,500	97	64	0	0
73	0	0	0	0	1,700	1,500	109	72	0	0
74	0	0	0	0	1,700	1,500	121	81	0	0
75	0	0	0	0	10,000	10,000	136	92	0	0

*Normal retirement assumptions apply to employees with 30 or more years of service.

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CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

Protective with Social Security

Separations from active status expressed as number of occurrences per 10,000:

Age	Withdrawal		Early/Normal Retirement		Death		Disability	
	Male	Female	Male	Female	Male	Female	Male	Female
25	N/A	N/A	0	0	2	1	1	1
26	N/A	N/A	0	0	2	1	1	1
27	N/A	N/A	0	0	2	1	1	1
28	N/A	N/A	0	0	2	1	1	1
29	N/A	N/A	0	0	2	1	1	1
30	160	160	0	0	2	1	1	1
31	150	150	0	0	3	2	1	1
32	150	150	0	0	3	2	1	1
33	150	150	0	0	3	2	2	2
34	140	140	0	0	4	2	2	2
35	140	140	0	0	4	2	2	2
36	130	130	0	0	4	2	3	3
37	130	130	0	0	5	3	3	3
38	130	130	0	0	5	3	3	3
39	120	120	0	0	5	3	3	3
40	120	120	0	0	5	3	3	3
41	110	110	0	0	6	4	3	3
42	110	110	0	0	6	4	4	4
43	110	110	0	0	6	4	4	4
44	110	110	0	0	7	5	4	4
45	110	110	0	0	7	5	5	5
46	110	110	0	0	8	6	5	5
47	110	110	0	0	8	6	6	6
48	100	100	0	0	9	6	6	6
49	100	100	0	0	9	7	7	7
50	100	100	600	600	10	8	8	8
51	100	100	700	700	11	9	8	8
52	100	100	800	800	14	10	9	9
53	100	100	2,300	2,300	16	11	46	46
54	100	100	1,800	1,800	19	12	84	84
55	0	0	1,700	1,700	22	13	121	121
56	0	0	1,600	1,600	25	15	159	159
57	0	0	1,600	1,600	27	16	196	196
58	0	0	1,600	1,600	28	17	199	199
59	0	0	1,600	1,600	30	18	202	202

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CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

Protective with Social Security

Separations from active status expressed as number of occurrences per 10,000:

Age	Withdrawal		Early/Normal Retirement		Death		Disability	
	Male	Female	Male	Female	Male	Female	Male	Female
60	0	0	1,800	1,800	31	19	204	204
61	0	0	1,800	1,800	33	21	0	0
62	0	0	2,200	2,200	35	23	0	0
63	0	0	2,900	2,900	39	25	0	0
64	0	0	1,600	1,600	43	27	0	0
65	0	0	3,000	3,000	48	30	0	0
66	0	0	2,000	2,000	54	33	0	0
67	0	0	1,500	1,500	60	36	0	0
68	0	0	2,500	2,500	65	40	0	0
69	0	0	2,000	2,000	72	45	0	0
70	0	0	10,000	10,000	80	51	0	0

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CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

General Employee and Protective with Social Security

Separations from retired status expressed as number of occurrences per 10,000:

Age	Healthy		Disabled	
	Male	Female	Male	Female
50	18	14	50	28
51	20	16	53	30
52	25	17	56	31
53	30	19	59	34
54	35	21	63	37
55	41	24	67	40
56	45	27	74	44
57	49	28	83	48
58	51	30	93	52
59	54	33	104	57
60	57	35	116	63
61	60	38	128	69
62	64	41	142	77
63	71	45	156	87
64	79	49	173	98
65	88	54	191	110
66	97	59	213	123
67	108	65	238	139
68	119	73	266	157
69	131	82	297	177
70	145	92	332	199
71	160	103	378	225
72	177	116	430	256
73	198	131	489	291
74	221	148	557	330
75	247	166	633	375
76	276	188	715	427
77	308	212	808	494
78	351	241	913	571
79	399	274	1,031	661
80	454	311	1,165	764
81	516	353	1,282	884
82	587	402	1,410	977
83	663	465	1,551	1,079
84	749	538	1,707	1,192
85	846	622	1,878	1,317
86	956	719	2,107	1,455
87	1,086	832	2,364	1,645
88	1,201	919	2,652	1,860
89	1,328	1,016	2,975	2,103

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CITY OF MANITOWOC
(excluding Public Utilities)

**Actuarial Valuation of Retiree Medical Benefits
as of January 1, 2014**

General Employee and Protective with Social Security

Separations from retired status expressed as number of occurrences per 10,000:

Age	Healthy		Disabled	
	Male	Female	Male	Female
90	1,468	1,128	3,246	2,378
91	1,623	1,253	3,422	2,588
92	1,795	1,391	3,516	2,768
93	2,024	1,581	3,612	2,876
94	2,282	1,796	3,659	3,001
95	2,573	2,041	3,717	3,043
96	2,901	2,319	3,830	3,100
97	3,181	2,537	3,920	3,158
98	3,354	2,714	3,979	3,201
99	3,463	2,833	4,000	3,262
100	3,559	2,956	4,000	3,301
101	3,622	3,013	4,000	3,359
102	3,680	3,069	4,000	3,426
103	3,811	3,142	4,000	3,515
104	3,900	3,185	4,000	3,646
105	3,979	3,262	4,000	3,762
106	4,000	3,301	4,000	3,860
107	4,000	3,359	4,000	3,935
108	4,000	3,426	4,000	3,983
109	4,000	3,515	10,000	10,000
110	4,000	3,646	10,000	10,000
111	4,000	3,762	10,000	10,000
112	4,000	3,860	10,000	10,000