



The Annuities Underwritten by the Municipal Employees' Pension Plan Actuarial Valuation as at December 31, 2017

Management Valuation

April 30, 2018

Table of Contents

Executive Summary	3
Section 1: Introduction	4
Section 2: Management Valuation Results	6
Section 3: Solvency Valuation Results	9
Section 4: Cash Flow Projection	11
Appendix A: Glossary of Terms	12
Appendix B: Assets	13
Appendix C: Membership Data	15
Appendix D: Management Assumptions and Methods	18
Appendix E: Solvency Assumptions and Methods	22
Appendix F: Summary of Plan Provisions	23
Appendix G: Administrator Certification	25

Executive Summary

An actuarial valuation has been prepared on the Annuities Underwritten by The Municipal Employees' Pension Plan (the "Plan") as at December 31, 2017 to meet the requirements of a Funding Policy adopted by the Municipal Employees' Pension Commission (the "Commission") to provide a framework for the sound financial management of the Plan and to assist the Commission in its decision-making process, its development of recommendations to the Minister of Finance and its communication with stakeholders. This section provides an overview of the important results and the key valuation assumptions which have had a bearing on these results. The next actuarial valuation for the purpose of filing with the regulatory authorities should be performed no later than as at December 31, 2019.

Summary of Principal Results

	December 31, 2017		December 31, 2016	
	Management	Solvency	Management	Solvency
Assets	\$ 18,220,000	\$ 17,897,000	\$ 19,011,000	\$ 18,667,000
Liabilities	<u>14,321,000</u>	<u>17,919,000</u>	<u>15,907,000</u>	<u>19,967,000</u>
Surplus/(Deficit)	\$ 3,899,000	\$ (22,000)	\$ 3,104,000	\$ (1,300,000)

Key Assumptions

The principal assumptions to which the valuation results are most sensitive are outlined in the following table.

	December 31, 2017		December 31, 2016	
	Management	Solvency	Management	Solvency
Discount rate	5.75%	2.90%	5.75%	2.90%
Inflation rate	2.25%	3.00%	2.25%	3.00%
Mortality table	Males: 115% of CPM Private Females: 100% of CPM Private	CPM Combined	Males: 115% of CPM Private Females: 100% of CPM Private	CPM Combined

Respectfully submitted,



David R. Larsen, FSA, FCIA
Partner



Johanan Schmuecker, FSA, FCIA
Senior Consultant

April 30, 2018

Section 1: Introduction

Purpose and Terms of Engagement

We have been engaged by the Municipal Employees' Pension Commission and hereafter referred to as the "Commission", to conduct an actuarial valuation of the Annuities underwritten by Municipal Employee's Pension Plan (the "Plan") as at December 31, 2017 in accordance with the Plan's funding policy, based on the actuarial assumptions and methods summarized herein. More specifically, the purposes of the valuation are to:

- Determine the financial position of the Plan on a best estimate going concern basis as at December 31, 2017;
- Determine the financial position of the Plan on a solvency basis as at December 31, 2017;
- Determine how much surplus, if any, is available for increase to the non-indexed annuities on an excess interest basis; and
- Provide cash flow projections of the annuities paid from the Plan.

The results of this report may not be appropriate for accounting or regulatory filing purposes or any other purposes not listed above.

While we have been engaged by the Commission to conduct this actuarial valuation, we note that the users of our work may well extend to parties external to the Commission. Out of respect for the Commission's confidentiality, however, we shall not undertake to communicate the terms of our engagement or results of our work with such other users unless so directed by the Commission.

The next required valuation for regulatory filing purposes will be as at December 31, 2019.

Summary of Changes Since the Last Valuation

The last such actuarial valuation in respect of the Plan was performed as at December 31, 2016. There have been no changes since the last valuation.

Information and Inputs

In order to prepare our valuation, we have relied upon the following information:

- Membership data compiled as at December 31, 2017 by the Public Employees Benefits Agency (PEBA);
- Asset data taken from the Plan's audited financial statements; and
- A copy of the act and regulations governing the Plan.

Furthermore, our actuarial assumptions and methods have been chosen to reflect our understanding of the Commission's desired funding objectives with due respect to accepted actuarial practice in Canada and the Plan's funding policy.

Subsequent Events

As of the date of this report, we have not been made aware of any subsequent events which would have an effect on the results of this valuation. However, the following points should be noted in this regard:

- Actual experience deviating from expected after December 31, 2017 will result in gains or losses which will be reflected in the next actuarial valuation report; and
- To the best of our knowledge, the results contained in this report are based on the regulatory and legal environment in effect at the date of this report and do not take into consideration any potential changes that may be currently under review. To the extent that actual changes in the regulatory and legal environment transpire, any financial impact on the Plan as a result of such changes will be reflected in future valuations.

Section 2: Management Valuation Results

Financial Position of the Plan under Management Valuation

The management valuation provides an assessment of the Plan's financial position at the valuation date on the premise that the Plan continues on into the future indefinitely.

The selection of the applicable actuarial assumptions and methods reflect the Plan's funding objectives, as communicated by the Commission, actuarial standards of practice, and pension standards.

On the basis of the funding policy, plan provisions, membership data, best estimate assumptions and methods, and asset information described in the Appendices, the financial position of the Plan under the management valuation as at December 31, 2017 is shown in the following table. The results as at December 31, 2016 are also shown for comparison purposes.

Financial Position under Management Valuation

	December 31, 2017	December 31, 2016
Market Value of Assets	\$18,220,000	\$19,011,000
Going Concern Liabilities		
Former plan pensions	\$ 8,701,000	\$ 9,812,000
Pensions from excess contributions	<u>5,620,000</u>	<u>6,095,000</u>
Total Liabilities	\$14,321,000	\$15,907,000
Surplus/(Unfunded Liability)	\$ 3,899,000	\$ 3,104,000

Change in Financial Position

During the period from December 31, 2016 to December 31, 2017, the financial position of the Plan changed from a surplus of \$3,104,000 to a surplus of \$3,899,000. The major components of this change are summarized in the following table.

Reconciliation of the Financial Position under Management Valuation For the Period from December 31, 2016 to December 31, 2017

Surplus/(Unfunded Liability) as at December 31, 2016	\$ 3,104,000
Expected interest on surplus (unfunded liability)	<u>178,000</u>
Expected Surplus/(Unfunded Liability) as at December 31, 2017	\$ 3,282,000
Change in liabilities due to experience gains/(losses)	
Gain from investment earnings greater than expected	607,000
Gain on mortality experience	8,000
Gain on indexation less than expected	10,000
Miscellaneous	1,000
Loss due to new retirees	<u>(9,000)</u>
Surplus/(Unfunded Liability) as at December 31, 2017	\$ 3,899,000

Management Valuation Sensitivity Results

In accordance with the Canadian Institute of Actuaries Standards of Practice specific to pension plans that became effective December 31, 2010, the table below presents the sensitivity of the management liabilities of using a discount rate 1% lower than that used for the management valuation.

	Valuation Basis	Based on Rate of	Effect	
	December 31, 2016	1% Lower	\$	%
Management liabilities	\$ 14,321,000	\$ 15,146,000	\$ 825,000	5.8%

Note that using a discount rate 1% higher than that assumed would result in a comparable reduction in the Plan's liabilities.

Alternate Assumption Analysis

The following table outlines the impact of using alternate assumptions for discount rate, inflation rate and life expectancy. Each scenario is independent of the others.

Management Results	Liabilities (\$000s)	Funded Status (\$000s)	Funded Ratio (%)
Base Results	\$ 14,321	\$ 3,899	127.2%
6.25% Discount Rate	\$ 13,942	\$ 4,278	130.7%
5.40% Discount Rate	\$ 14,599	\$ 3,621	124.8%
2.00% Inflation	\$ 14,493	\$ 3,727	125.7%
1 year increase in life expectancy	\$ 15,021	\$ 3,199	121.3%

Section 3: Solvency Valuation Results

Solvency Financial Position of the Plan

The solvency valuation is a financial assessment of the Plan that is required by the Plan's funding policy and is performed in accordance with requirements prescribed by *The Pension Benefits Act, 1992* (Saskatchewan) (the "Act"). It is intended to provide an assessment of the Plan's financial position at the valuation date on the premise that certain obligations as prescribed by the Act are settled on the valuation date for all members.

On the basis of the plan provisions, membership data, solvency assumptions and methods and asset information described in the Appendices, as well as the requirements of the Act, the solvency financial position of the Plan as at December 31, 2017 is shown in the following table. The solvency financial position of the Plan as at December 31, 2016 is shown for comparison purposes.

Solvency Financial Position

	December 31, 2017	December 31, 2016
Assets		
Solvency assets	\$18,220,000	\$19,011,000
Estimated wind up expenses	<u>(323,000)</u>	<u>(344,000)</u>
Total Assets	\$17,897,000	\$18,667,000
Solvency Liabilities		
Former plan pensions	\$10,566,000	\$11,947,000
Pensions from excess contributions	<u>7,353,000</u>	<u>8,020,000</u>
Total Liabilities	\$17,919,000	\$19,967,000
Solvency Surplus/(Deficiency)	\$ (22,000)	\$ (1,300,000)

Solvency Valuation Sensitivity Results

In accordance with the Canadian Institute of Actuaries Standards of Practice specific to pension plans that became effective December 31, 2010, the table below presents the sensitivity of the solvency liabilities to using a discount rate of 1% lower than that used for the solvency valuation.

	December 31, 2016	Based on Rate of 1% Lower	Effect \$	%
Solvency liabilities	\$ 17,919,000	\$ 19,002,000	\$ 1,083,000	6.0%

Note that using a discount rate 1% higher than that assumed would result in a comparable reduction in the solvency liabilities.

Incremental Cost on a Solvency Basis

The incremental cost on a solvency basis represents the present value at December 31, 2017 of the expected aggregate change in the solvency liabilities between December 31, 2017 and the next calculation date, which is December 31, 2018. For a plan that only includes members in receipt of annuity benefits, it is expected that the liabilities will decline by the amount of expected benefit payments, so the incremental cost on a solvency basis, for the period from December 31, 2017 to December 31, 2018 is \$0.

Section 4: Cash Flow Projection

The following table shows the projected annual annuity payments for the next 50 years assuming no new annuities are added and mortality on the management valuation basis. These annuity payments include future indexing of the indexed annuities, but no future increases for the non-indexed annuities.

Year starting Jan 1	Cash Flow	Year starting Jan 1	Cash Flow
2018	\$ 2,177,000	2043	\$ 99,000
2019	2,001,000	2044	84,000
2020	1,830,000	2045	71,000
2021	1,666,000	2046	60,000
2022	1,512,000	2047	50,000
2023	1,365,000	2048	41,000
2024	1,229,000	2049	34,000
2025	1,102,000	2050	28,000
2026	986,000	2051	22,000
2027	878,000	2052	18,000
2028	781,000	2053	14,000
2029	689,000	2054	11,000
2030	609,000	2055	9,000
2031	537,000	2056	7,000
2032	472,000	2057	5,000
2033	415,000	2058	4,000
2034	364,000	2059	3,000
2035	318,000	2060	2,000
2036	277,000	2061	2,000
2037	241,000	2062	1,000
2038	210,000	2063	1,000
2039	181,000	2064	1,000
2040	157,000	2065	-
2041	135,000	2066	-
2042	115,000	2067	-

Appendix A: Glossary of Terms

- The **estimated wind up expenses** is an estimate of the administrative and other expenses expected to be charged against the pension fund if the Plan were to terminate on the valuation date.
- The **management liabilities** are the actuarial present value of benefits earned in respect of service prior to the valuation date. The going concern liabilities are calculated using the going concern assumptions and methods summarized in Appendix D of this report.
- The **management financial position** is the difference between the actuarial value of assets and the going concern liabilities.
- **Solvency assets** are the market value of pension fund assets adjusted to reflect contributions, benefit payments, transfers and fees/expenses in-transit at the valuation date.
- The **solvency liabilities** are the actuarial present value of benefits earned in respect of service prior to the valuation date determined as if the Plan were wound up on the valuation date. The solvency liabilities are calculated using the solvency valuation assumptions summarized in Appendix E of this report.
- The **solvency surplus/(deficiency)** is the difference between the solvency assets (net of estimated wind up expenses) and the solvency liabilities.
- The **surplus/(unfunded liability)** is the difference between the actuarial value of assets and the management liabilities.

Appendix B: Assets

Market Value of Assets

The following is a summary of the composition of the Plan's assets by asset type. This has been taken from the Plan's audited financial statements.

	December 31, 2017	
	\$	%
Cash and short term	\$ 712,000	3.9%
Bonds	1,995,000	10.9%
Equities	6,640,000	36.4%
Private Equity	741,000	4.1%
Infrastructure	1,362,000	7.5%
Pooled Funds	6,733,000	37.0%
Net accounts receivable	<u>37,000</u>	<u>0.2%</u>
Total Invested Assets	\$ 18,220,000	100.0%

Target Asset Mix

The target asset mix of the fund, upon which the December 31, 2017 discount rate assumption has been based, is provided in the following table. This has been taken from the Plan's Statement of Investment Policies and Procedures dated November 2017.

	Minimum	Target	Maximum
Canadian Bonds – Corporate	7.5%	11%	14.5%
Canadian Bonds – Core Plus	7.5%	11%	14.5%
Canadian Bonds – Long-term Core Plus	7.5%	11%	14.5%
Cash/Short Term	0%	2%	4%
Canadian Equities	10%	15%	20%
U.S. Equities (Large Capitalization)	2%	4%	6%
U.S. Equities (Small Capitalization)	2%	4%	6%
Non-North American Equities	2%	4%	6%
Global Equities	13%	18%	23%
Private Equity	1%	5%	8%
Infrastructure	4%	10%	13%
Real Estat	3%	<u>5%</u>	8%
		100.0%	

Reconciliation of Changes in Market Value of Assets

The table below reconciles changes in the market value of assets between December 31, 2016 and December 31, 2017.

	December 31, 2017	December 31, 2016
Market Value of Assets, Beginning of Year	\$ 19,011,000	\$ 20,081,000
Transfer-In	-	42,000
Annuities paid	(2,422,000)	(2,653,000)
Total investment income	1,836,000	1,752,000
Investment management expenses	(1,000)	(60,000)
Administration expenses	<u>(204,000)</u>	<u>(151,000)</u>
Market Value of Assets, End of Year	\$ 18,220,000	\$ 19,011,000
Adjustment for pending transfers-in	<u>-</u>	<u>-</u>
Adjusted Market Value of Assets, End of Year	\$ 18,220,000	\$ 19,011,000
Rate of return, net of all expenses	9.2%	8.2%

Appendix C: Membership Data

Source of Data

Data as to the membership of the Plan was compiled as at December 31, 2017 and provided by the Public Employees Benefits Agency. The relevant data required as of December 31, 2017 to carry out this valuation was extracted from these records. The data was checked for consistency with the previous valuation, general reasonableness, internal consistency and reconciled with the previous valuation's membership data. Data testing did not include an independent audit from source records to test for completeness and accuracy.

Data checks included, but were not limited to, a review of changes to annual pensions and personal data (i.e. birth dates, dates of hire, etc.) from the previous valuation to this valuation, and any duplicate records. The checks were reviewed with the plan administrator and appropriate adjustments were made.

Membership Reconciliation – Total Annuities¹

	Annuitants	Survivors	Total
December 31, 2016	618	530	1,148
New	1	-	1
Data correction	-	-	-
Death – No further payments	(28)	(44)	(72)
Death – To spouse/beneficiary	(20)	20	-
Beneficiary payment expiry	-	-	-
December 31, 2017	571	506	1,077

Membership Reconciliation – Former Plan Annuities

	Annuitants	Survivors	Total
December 31, 2016	211	290	501
New	-	-	-
Data correction	-	-	-
Death – No further payments	(14)	(28)	(42)
Death – To spouse/beneficiary	(7)	7	-
Beneficiary payment expiry	-	-	-
December 31, 2017	190	269	459

¹ Annuitants receiving both a former plan annuity and an excess contribution annuity have been combined into one record for the purposes of this reconciliation.

Membership Reconciliation – Excess Contribution Annuities

	Annuitants	Survivors	Total
December 31, 2016	525	380	905
New	1	-	1
Data correction	-	-	-
Death – No further payments	(20)	(30)	(50)
Death – To spouse/beneficiary	(16)	16	-
Beneficiary payment expiry	-	-	-
December 31, 2017	490	366	856

Membership Data²

Former Plan Pension - Annuitants

	December 31, 2016	December 31, 2017
Membership	211	190
Average age	86.1 years	86.6 years
Average monthly annuity payment	\$319	\$313
Average period since commencement of annuity	24.6 years	25.3 years

Former Plan Pension - Survivors

	December 31, 2016	December 31, 2017
Membership	290	269
Average age	85.3 years	85.5 years
Average monthly annuity payment	\$265	\$266
Average period since commencement of annuity	27.8 years	28.3 years

Pension from Excess - Annuitants

	December 31, 2016	December 31, 2017
Membership	525	490
Average age	84.1 years	84.9 years
Average monthly payment from Excess	\$89	\$87
Average period since commencement of annuity	20.7 years	21.5 years

² All average pension amounts include the 1.44% increase at January 1, 2018 for indexed pensions.

Pension from Excess - Survivors

	December 31, 2016	December 31, 2017
Membership	380	366
Average age	84.1 years	84.6 years
Average monthly payment from Excess	\$38	\$43
Average period since commencement of annuity	25.5 years	26.1 years

Appendix D: Management Assumptions and Methods

Actuarial Assumptions and Methods

A member's entitlements under a pension plan are generally funded during the period over which service is accrued by the member. The cost of each member's benefits is allocated in some fashion over the member's service. An actuarial valuation provides an assessment of the extent to which allocations relating to periods prior to a valuation date (often referred to as the actuarial liabilities) are covered by the plan's assets.

The management valuation provides an assessment of a pension plan on the premise that the plan continues on into the future indefinitely based on best estimate assumptions in respect of future events upon which a plan's benefits are contingent and methods that effectively determine the way in which a plan's costs will be allocated over the members' service. The true cost of a plan, however, will emerge only as experience develops, investment earnings are received, and benefit payments are made.

This appendix summarizes the assumptions and methods that have been used for the management valuation of the Plan at the valuation date. The assumptions and methods have been chosen to reflect our understanding of the Plan's funding objectives with due respect to accepted actuarial practice and regulatory constraints. For purposes of this valuation, the methods and assumptions were reviewed and changes as indicated were made.

Assumptions and Methods

The actuarial assumptions and methods used in the current and previous valuations are summarized below and described on the following pages.

	December 31, 2017	December 31, 2016
Economic Assumptions		
Discount rate, net of all expenses	5.75%	5.75%
Inflation rate	2.25%	2.25%
Investment expenses	Included in discount rate	Included in discount rate
Non-investment expenses	Included in discount rate	Included in discount rate
Demographic Assumptions		
Mortality	Males: 115% of CPM Private Females: 100% of CPM Private	Males: 115% of CPM Private Females: 100% of CPM Private
Margin for adverse deviation	None	None

Description of Actuarial Assumptions and Methods

Economic Assumptions

Discount Rate

We have used a discount rate of 5.75%.

The overall expected return (“best-estimate”) is 5.75%, which is based on an inflation rate of 2.25%, yielding a real rate of return on the pension fund assets of 3.50%. This best-estimate rate of return was developed using best-estimate returns for each major asset class in which the pension fund is invested and then using a building block approach, based on the Plan’s investment policy, to develop an overall best-estimate rate of return for the entire pension fund. Any additional gains from rebalancing and diversification have been included above.

In order to set the discount rate, we have incorporated the following adjustments to the overall expected rate of return:

Development of Discount Rate

Overall expected return				6.19%
Non-investment expenses				(0.40)%
Investment expenses				
Passive	(1)	(0.04)%		
Actively managed	(2)	<u>(0.60)%</u>		
			(1)+(2)	(0.64)%
Additional returns due to active management				0.60%
Unrounded Discount Rate				5.75%

Therefore, we have arrived at a discount rate of 5.75% per year. This assumption is best estimate and therefore contains no margins for adverse deviation.

The previous valuation used a discount rate of 5.75%, net of all expenses.

Inflation Rate

The inflation rate is assumed to be 2.25% per year. This reflects our best estimate of future inflation considering current economic and financial market conditions. This assumption remains unchanged from the previous valuation.

Expenses

Since the discount rate has been established net of all investment expenses, no explicit assumption is required for all/investment expenses.

Demographic Assumptions

Mortality

During 2014, a mortality study was performed for a number of municipal defined benefit pension plans in Saskatchewan, including MEPP. The results of the study indicated that MEPP experiences statistically different mortality than other Saskatchewan municipal plans.

The results of the study indicate that a best estimate of the current mortality of the plan members is the 2014 CPM Private Sector Mortality Table, with base mortality rates adjusted as follows:

- Males: Base rates increased by 15% (i.e. 115% of base rates)
- Females: No adjustment (i.e. 100% of base rates)

In order to estimate future improvements in life expectancy, future mortality improvements have been estimated through the use of the unadjusted CPM-B projection scale, applied on a generational basis.

The previous valuation used the same mortality assumption.

Generational mortality rates depend on the year of birth of a member and vary by age. For example, the mortality rate at age 80 for a member age 70 at the valuation date (e.g. 40.28 expected deaths per 1,000 lives for males in the table below) will be higher than the mortality rate at age 80 for a member age 60 (e.g. 37.12 expected deaths per 1,000 lives for males in the table below) at the valuation date. The mortality rates decline due to projected mortality improvements over time.

Mortality rates per 1,000 lives at selected ages are as follows:

CPM Private Mortality per 1,000 lives – Male, increased by 15%

Mortality per 1,000 lives at each future age					
Current age	80	85	90	95	100
60	37.12	71.57	137.80	256.91	378.02
70	40.28	76.63	144.60	265.81	389.55
80	47.10	83.25	151.77	275.02	401.43
90	n/a	n/a	162.12	283.48	413.61

CPM Private Mortality per 1,000 lives – Female, unadjusted

Mortality per 1,000 lives at each future age					
Current age	80	85	90	95	100
60	23.11	44.74	90.04	174.70	283.78
70	25.05	47.90	94.47	180.76	292.43
80	28.17	51.97	99.16	187.02	301.35
90	n/a	n/a	105.92	192.77	310.49

Actuarial Cost Method

The single premium actuarial cost method was used to determine the actuarial liabilities. Under this method, the accrued liability at December 31, 2017 is determined as the lump sum required to fully fund the annuity payments at that date. Since the liabilities are fully funded with a lump sum transfer of assets there is no normal actuarial cost for the Fund. This is the same method as used in the previous valuation.

Asset Valuation Method

Market value, adjusted by in-transit cash flows was used as the actuarial value of assets for this valuation.

Appendix E: Solvency Assumptions and Methods

Valuation Assumptions

	December 31, 2017	December 31, 2016
Economic Assumptions		
Annuity purchase discount rate		
—Without indexation	2.90%	2.90%
—With indexation	(0.10%)	(0.10%)
Demographic Assumptions		
Mortality rates	2014 Canadian Pensioner Combined Mortality Table with projection scale CPM-B	2014 Canadian Pensioner Combined Mortality Table with projection scale CPM-B
Other		
Wind up expenses	\$323,000	\$344,000
Actuarial cost method	Unit credit	Unit credit
Asset valuation method	Market value of assets adjusted to reflect in-transit items as of the valuation date	Market value of assets adjusted to reflect in-transit items as of the valuation date

Estimated Wind Up Expenses

Plan wind up expenses would normally include such items as fees related to preparation of the actuarial wind up report, fees imposed by a pension supervisory authority, legal fees, administration, custodial and investment management expenses. We have estimated this to be \$300 per member, which is unchanged from the previous valuation.

Actuarial Cost Methods

Unit credit (accrued benefit) cost method as prescribed.

Asset Valuation Method Considerations

Assets for solvency purposes have been determined using market value.

Appendix F: Summary of Plan Provisions

This section contains a brief summary of the provisions of the Plan that are relevant for valuation purposes as it pertains to annuity benefits:

Life Annuities

Life annuities are paid for the life of the annuitant based on:

- rates of interest offered at the time the annuity commences; and
- the form of the annuity.

Forms of Annuities

The following is a brief description of the various forms of annuities currently being paid out of the retirement fund:

Life Annuity

The annuity is payable on a monthly basis in arrears for the life of the annuitant. If the annuitant dies before the end of the guarantee period, the remaining guaranteed payments are paid to the last designated beneficiary. A single member can purchase an annuity guaranteed for 0, 5, 10, or 15 years. A member with a spouse can purchase a single life annuity if the spouse waives the right to a joint annuity.

Joint and Last Survivor Annuity

The annuity is payable on a monthly basis in arrears for the life of the annuitant and the spouse. In the month following the death of the annuitant, monthly benefits are payable to the spouse for the remainder of the spouse's lifetime. The continuing benefits for the spouse are selected at the time of retirement as 100%, 75%, 60% or 50% of the annuitant's payments. The member may purchase a joint annuity with a 0, 5, 10 or 15-year guarantee on the annuitant's payments. The current annuities being paid include continuing benefits for spouses at percentages equal to 50%, 60%, 75% and 100%.

Upon the death of both the annuitant and the spouse and after any applicable guarantee period, payments cease and no further benefits are payable.

Indexed Annuities

Effective February 28, 1997, the Plan began underwriting annuities that included provisions for indexing at 100% of the increases in the Saskatchewan Consumer Price Index (CPI). Increases in the annuity payments for "indexed annuities" are granted on each January 1 following the member's retirement date. The increase at January 1, 2017 was 1.15% and the increase at January 1, 2018 was 1.44%. The increase for indexing on the first January 1 following a member's date of retirement is provided on a pro-rata basis from the month of retirement. Members have the option of choosing an annuity that includes future indexing or not.

Excess Interest Increases for Non-Indexed Annuities

With effect from January 1, 2003, annuities, other than indexed annuities, will be increased by the excess over the lesser of 6% and the discount rate used to determine the annuity at retirement, of the rate of return in the immediately preceding year on the assets supporting the annuity liabilities, subject to there being sufficient funds to do so. The rate of return in a particular year will be determined by PEBA using a smoothing technique. The increase in any year will not be greater than the increase in the Consumer Price Index for the previous year.

Appendix G: Administrator Certification

With respect to the Annuities Underwritten by the Municipal Employee's Pension Plan, forming part of the actuarial report as at December 31, 2017, I hereby certify that, to the best of my knowledge and belief:

- The asset data contained in Appendix B of this report is complete and accurate;
- The membership data summarized in Appendix C of this report form a complete and accurate description of all persons who are entitled to benefits under the terms of the Plan in respect of service up to the date of the valuation;
- The summary of the Plan provisions contained in Appendix F is an accurate summary of the current Plan provisions; and
- The actuary has been notified of all relevant events subsequent to the valuation measurement date.

Date May 4, 2018

Signed 

Name Kevin Sockett

Title Manager, Municipal Employees' Pension Plan

Contact Information

David Larsen

Partner

Aon

Retirement

+1.306.934.8691

dave.larsen@aon.com

Joe Schmuecker

Senior Consultant

Aon

Retirement

+1.306.934.8684

johanan.schmuecker@aon.com

About Aon

Aon plc (NYSE:AON) is the leading global provider of risk management, insurance and reinsurance brokerage, and human resources solutions and outsourcing services. Through its more than 66,000 colleagues worldwide, Aon unites to empower results for clients in over 120 countries via innovative and effective risk and people solutions and through industry-leading global resources and technical expertise. Aon has been named repeatedly as the world's best broker, best insurance intermediary, best reinsurance intermediary, best captives manager, and best employee benefits consulting firm by multiple industry sources. Visit aon.com for more information on Aon and aon.com/manchesterunited to learn about Aon's global partnership with Manchester United.

© 2018 Aon Hewitt Inc. All Rights Reserved.

This document contains confidential information and trade secrets protected by copyrights owned by Aon Hewitt. The document is intended to remain strictly confidential and to be used only for your internal needs and only for the purpose for which it was initially created by Aon Hewitt. No part of this document may be disclosed to any third party or reproduced by any means without the prior written consent of Aon Hewitt.