



**Actuarial Valuation Report  
As At December 31, 2008  
On The Annuities  
Underwritten by  
The Municipal Employees' Pension Plan**

Prepared by:

Eckler Ltd.  
Winnipeg, Manitoba

August 19, 2009



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**Section 1 Executive Summary**

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**INTRODUCTION**

The Municipal Employee’s Pension Plan (MEPP) is a defined contribution plan for service prior to July 1, 1973 (the “Former Plan”) and a defined benefit plan for service after that date. This report is concerned with the valuation of the annuities in payment which have been provided in respect of contributions under the Former Plan and those which have been provided in respect of “excess” contributions due to the application of the 50% rule under the defined benefit plan for retirements and terminations of employment which occurred on or prior to December 31, 2000.

The Canada Revenue Agency has directed that, with effect from January 1, 2002, separate account must be kept of the operation of that part of the MEPP fund under which these annuities are provided. Prior to that date, no separate account of the annuity assets had been kept.

We have therefore been retained by the Municipal Employees’ Pension Plan Commission to prepare this report, the purpose of which is to:

- (a) Determine the actuarial liabilities of the annuity account as described above at December 31, 2008.
- (b) To determine how much surplus is available for increases to the non-indexed annuities on an excess interest basis.
- (c) Provide cash flow projections of the annuities paid from the plan.

The previous valuation report was prepared as of December 31, 2007.

This is the third annual valuation performed since a Funding Policy was adopted by the Commission in respect of the defined benefit part of the plan. Consistent with that Funding Policy, this report sets forth the results of valuations on both a going-concern and a solvency basis with the going-concern valuation presented on two bases, the minimum and maximum funding valuation.

This report should be read in conjunction with the *Report on the Actuarial Valuation of the Saskatchewan Municipal Employees’ Pension Plan as at December 31, 2008*, dated August 19, 2009, which provides greater detail on the Funding Policy and the minimum and maximum funding valuations. Alternatively, reference may be made to *Report on the Actuarial Valuation of the Saskatchewan Municipal Employees’ Pension Plan as at December 31, 2007*, dated September 19, 2008.

**RESULTS**

*Financial Position at December 31, 2008*

A comparison of the financial position under the minimum and maximum funding valuations as at December 31, 2008 is as follows:

	<b>(thousands of dollars)</b>	
	<b>Minimum Funding</b>	<b>Maximum Funding</b>
Assets at market value	\$25,661	\$25,661
Liabilities	<u>28,363</u>	<u>33,160</u>
Surplus/(deficit)	(\$2,702)	(\$7,499)

The solvency valuation produces a shortfall as follows:

	<u>(thousands of dollars)</u>
Assets at market value	\$25,661
Expenses of plan wind-up	<u>(511)</u>
Net assets for solvency purposes	\$25,150
Total solvency liabilities	<u>\$31,365</u>
Excess/(Shortfall)	(\$6,215)

Canada Revenue Agency will not permit the granting of additional allowances if there is a shortfall or deficit in the part of the fund which supports these annuities. As this is the case on all bases, an increase is not permitted.

Section 59.1 of *The Municipal Employees' Pension Act* provides that the Commission may pay additional allowances if the Commission determines that the assets of the fund are more than adequate to satisfy the test of solvency prescribed by *The Pension Benefits Act, 1992*. At this valuation, there is no excess on a solvency basis.

#### *Funding Requirements*

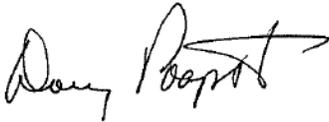
The annuities underwritten by the Plan are funded as each member retires by way of a lump sum transfer of the member's defined contribution account balances.

#### **NEXT VALUATION**

The last valuation report filed with the regulatory authorities was effective December 31, 2007. The next valuation to be filed with the regulatory authorities should therefore be effective no later than December 31, 2010. The Funding Policy indicates valuations are to be done annually.

Respectfully submitted,

ECKLER LTD.



A. Douglas Poapst, FSA, FCIA



K. Dawn Power, FSA, FCIA

August 19, 2009

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**Section 2 Asset Data**

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The annuity fund is kept separate on paper only. The following summarizes the changes in the assets of the annuity fund since the previous valuation:

	<u>(thousands of dollars)</u>
	2008
At start	\$34,484
Adjustment for prior years' transfer*	328
Transfer-in	337
Annuities Paid	(4,003)
Net investment income	(5,416)
Admin Expenses	<u>(69)</u>
At end	\$25,661

Information about the assets, transfers and annuity payments were provided to us by PEBA in the form of audited financial statements for 2008.

\* Adjustment for prior years' transfer - At the previous valuation we increased the asset value by \$328,000 for pending transfer amounts at December 31, 2007. These amounts have now been recognized in the financial statements.

**Section 3 Minimum Funding Valuation**

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**1. Actuarial Assumptions and Methods**

In this section we describe the actuarial assumptions that are specific to the minimum funding valuation. All other assumptions and methods used in the minimum funding valuation are described in Section 8.

**Actuarial Assumptions**

For the minimum funding valuation we have assumed that future investment returns will be 6.5%.

In the previous minimum funding valuation we assumed that the investment return would be 6.0%.

**2. Financial Position under Minimum Funding Valuation**

Based on the asset information from Section 2, the Plan provisions summarized in Section 7, the membership data summarized in Section 9, and the actuarial assumptions and methods outlined in this section, the results of the minimum funding valuation at December 31, 2008 compared with the results of the minimum funding valuation at December 31, 2007 are as follows:

	(thousands of dollars)	
	<u>December 31, 2008</u>	<u>December 31, 2007</u>
Assets at market value	\$25,661	\$34,812
Liabilities	<u>28,363</u>	<u>31,276</u>
Surplus/(deficit)	(\$2,702)	\$3,536

**3. Summary of Changes in Financial Position**

At the previous valuation, the surplus reported was \$3,536,000. At this valuation there is a funding deficiency under the minimum funding valuation basis of \$2,702,000. The changes in financial position may be summarized as follows:

Surplus at December 31, 2007	\$3,536,000
Interest on surplus at 6%	212,000
Net investment return less than 6% <sup>1</sup>	(7,465,000)
Mortality gain <sup>2</sup>	134,000
New retirees in 2008 <sup>3</sup>	49,000
Indexing in 2009 more than assumed <sup>4</sup>	(11,000)
Programming refinement <sup>5</sup>	(25,000)
Assumption change <sup>6</sup>	870,000
Balancing item	<u>(2,000)</u>
Surplus/(deficit) at December 31, 2008	(\$2,702,000)

Notes:

1. The investment return on the fund net of all expenses was -16.63% in 2008, compared to the 6.0% assumed.
2. The liabilities at the valuation are \$134,000 less than what they would have been if the mortality experience had been exactly consistent with that projected by the mortality assumption.
3. The liability for new retirees in 2008 at the valuation date is slightly less than the amounts transferred, less benefit payments, both with interest to the valuation date.

4. Indexed annuities were increased by 3.31% at January 1, 2009, higher than the assumed rate of 2.2%.
5. The valuation program was refined slightly to more accurately reflect the timing of future increases to indexed annuities.
6. At this valuation we assume future investment returns of 6.5% net of expenses and future increases to indexed annuities of 2.0% per year. At the last valuation, we assumed investment returns of 6.0% and indexing of 2.2%.

**Section 4 Maximum Funding Valuation**

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**1. Actuarial Assumptions and Methods**

In this section we describe the actuarial assumptions that are specific to the maximum funding valuation. All other assumptions and methods used in the maximum funding valuation are described in Section 8.

**Actuarial Assumptions**

We have assumed that future investment returns will be 4.0%. At the previous valuation, the assumed future investment return was 4.75%.

**2. Financial Position under Maximum Funding Valuation**

Based on the asset information from Section 2, the Plan provisions summarized in Section 7, the membership data summarized in Section 9, and the actuarial assumptions and methods outlined in this section the results of the maximum funding valuation at December 31, 2008 compared with the results of the funding valuation at December 31, 2007 were as follows:

	<u>(thousands of dollars)</u>	
	<u>December 31, 2008</u>	<u>December 31, 2007</u>
Assets at market value	\$25,661	\$34,812
Liabilities	<u>\$33,160</u>	<u>33,845</u>
Surplus/(deficit)	(\$7,499)	\$967

**Section 5 Solvency Valuation**

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**1. Actuarial Assumptions, Methods and Reserves**

In this section we describe the actuarial assumptions and reserves that are specific to the solvency valuation. All other assumptions and methods used in the solvency valuation are described in Section 8.

**a. Assumptions**

We assume that annuities would be purchased for all current pensioners. The purchase price for annuities is approximated by assuming mortality in accordance with the UP94@2015 mortality table and a discount rate of 4.85%. This is the basis recommended by the Canadian Institute of Actuaries for the valuation of immediate pensions in solvency valuations at December 31, 2008.

**b. Reserves**

Expenses required for plan wind-up are assumed to be \$300 per member (in all categories).

**2. Financial Position under the Solvency Valuation**

Based on the assumptions, and methods described in this section, the Plan provisions summarized in Section 7 and the membership data summarized in Section 8 the results of the solvency valuation are:  
(thousands of dollars)

Assets at market value	\$25,661
Expenses of plan wind-up	<u>(511)</u>
Net assets for solvency purposes	\$25,150
Liabilities	<u>31,365</u>
Excess/(Shortfall)	(\$6,215)

**3. Summary of Changes in Solvency Position**

At the previous valuation, there was a shortfall of \$124,000 on a solvency basis. At this valuation the shortfall has increased to \$6,215,000. The change in the solvency position may be summarized as follows:

Excess/(shortfall) at December 31, 2007	(\$124,000)
Interest on shortfall at 4.5%	(6,000)
Net investment return less than 4.5%	(6,970,000)
Mortality gain	146,000
New retirees in 2008	(2,000)
Indexing in 2009 more than assumed	(13,000)
Programming refinement	(29,000)
Assumption change	741,000
Expenses	<u>42,000</u>
Excess/(shortfall) at December 31, 2008	(\$6,215,000)

Notes:

- Sources of gain and loss are described in Section 3 with the reconciliation on the minimum funding basis;
- The solvency interest rate at the previous valuation was 4.5% and has increased to 4.85% for this valuation. The effect of this change combined with the decrease in the inflation assumption from 2.2% to 2.0% is a gain of \$741,000 shown above as a gain due to assumption change;
- The provision for wind-up expenses has decreased from the previous solvency valuation due to the decrease in the number of annuitants, producing a gain of \$42,000.

**Section 6 Cash Flow Projection**

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The following table shows the projected annual annuity payments for the next 54 years assuming no new annuities are added. These annuity payments include future indexing of the indexed annuities, but no future increases for the non-indexed annuities.

<b>Year Starting Jan 1</b>	<b>Cash Flow</b>	<b>Year Starting Jan 1</b>	<b>Cash Flow</b>
2009	3,819,000	2036	174,000
2010	3,637,000	2037	144,000
2011	3,437,000	2038	118,000
2012	3,239,000	2039	95,000
2013	3,038,000	2040	77,000
2014	2,840,000	2041	61,000
2015	2,638,000	2042	49,000
2016	2,444,000	2043	39,000
2017	2,248,000	2044	30,000
2018	2,062,000	2045	23,000
2019	1,880,000	2046	18,000
2020	1,707,000	2047	14,000
2021	1,540,000	2048	10,000
2022	1,384,000	2049	11,000
2023	1,236,000	2050	9,000
2024	1,099,000	2051	7,000
2025	972,000	2052	5,000
2026	855,000	2053	4,000
2027	748,000	2054	3,000
2028	651,000	2055	3,000
2029	563,000	2056	2,000
2030	485,000	2057	2,000
2031	416,000	2058	1,000
2032	354,000	2059	1,000
2033	299,000	2060	1,000
2034	252,000	2061	1,000
2035	210,000	2062	0

## **Section 7 Summary of Plan Provisions**

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This appendix contains a brief summary of the provisions of the Plan that are relevant for valuation purposes:

### **LIFE ANNUITIES**

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

1. rates of interest offered at the time the annuity commences;
2. 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 either 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 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, 2009 was 3.31%. 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 – this is the same technique which is used to determine the interest credit on members' contribution accounts under the defined benefit plan. The increase in any year will not be greater than the increase in the Consumer Price Index for the previous year.

## **Section 8 Actuarial Assumptions and Methods**

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### **UNDERWRITING ANNUITIES**

The major task involved in underwriting annuities is to convert an amount of accumulated contributions to an annual lifetime pension at the time an annuity commences.

In order to perform this conversion, two major assumptions are necessary. The first is the length of time that payments are expected to be made. The second is the amount of investment earnings that the fund can be expected to earn over a long period of time.

For indexed annuities, a third assumption, the expected level of increases in the CPI, is also necessary.

This first assumption regarding the length of time that payments are expected to be made is calculated by using a mortality table that allows the determination of a probability for each potential future payment. Given a large number of people, and assuming the investment earnings assumption is exactly realized, the fund will be extinguished at the time the last member of the group dies. Some in the group will die earlier than expected, thus producing a gain to the fund. Some will die later than expected, producing a loss to the fund. If the mortality assumptions are exactly realized, the gains will offset the losses.

The annuities underwritten by the Plan have, in the past, been issued using an interest rate that is determined based on the yield on investments at the time that the annuity is underwritten. The theory behind this approach is that the equity at the time of conversion could be hypothetically invested to earn the assumed rate of interest which will allow the Plan to make the expected annuity payments for the member and, if applicable for the spouse's lifetime.

From January 1, 2002 on, any non-indexed annuities will be determined using the lesser of 6% and the initial rate for the first 15 years used in the Canadian Institute of Actuaries Transfer Value basis which was effective September 1, 1993 which is consistent with the approach to excess interest increases described in Section 7.

### **ACTUARIAL ASSUMPTIONS**

Assumptions have been adopted in order to estimate the liabilities that have been incurred by the Plan. The true liability of the Plan will emerge only as experience develops, new annuities are added to the Plan, and annuity payments are made. Emerging experience, differing from the assumptions, will result in gains or losses, which will be revealed in future valuations. These assumptions should be reviewed from time to time in order to adequately reflect the experience of the Plan.

A summary of the actuarial assumptions used in the December 31, 2008 valuation is as follows:

<i>Mortality:</i>	UP94 Projected to 2015
<i>Interest:</i>	
2007 Valuation	Minimum funding valuation: 6.00% Maximum funding valuation: 4.75% Solvency valuation: 4.50%
2008 Valuation	Minimum funding valuation: 6.50% Maximum funding valuation: 4.00% Solvency valuation: 4.85%
<i>Future Indexing (Indexed Annuities):</i>	
2007 Valuation	2.20% on January 1, 2009 and annually thereafter
2008 Valuation	2.00% on January 1, 2010 and annually thereafter
<i>Future Increases (Non-Indexed Annuities):</i>	
2007 and 2008 Valuation	None
<i>Expenses of plan wind-up:</i>	
2007 and 2008 Valuation	\$300 per member

**METHOD**

The liability for each annuitant is the actuarial present value of all future payments under the annuity.

**Section 9 Membership Data Summary**

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The relevant data required to carry out this valuation was compiled as of December 31, 2008 by the Public Employees Benefits Agency. The indexed annuities data included the increase of 3.31% granted to indexed annuities as of January 1, 2009. The data was checked for consistency between the previous valuation and this valuation. Our tests consisted of verifying that information such as dates of birth, dates of retirement, and forms of pension were internally consistent with the December 31, 2007 valuation data. We also performed a reconciliation of the plan membership from December 31, 2007 to December 31, 2008

The following is a reconciliation of the members from December 31, 2007 to December 31, 2008. A summary of the data follows:

	Annuitants	Survivors	Total
Annuitants at December 31, 2007	1,168	594	1,762
Data adjustment*		(1)	(1)
New annuitants	8	-	8
Deaths – no further payments	(31)	(34)	(65)
Deaths with surviving spouses	(44)	44	-
Deaths with other beneficiaries	(3)	3	-
Beneficiaries' benefits expired		(2)	(2)
Marriage breakdown	<u>1</u>	<u>-</u>	<u>1</u>
Annuitants at December 31, 2008	1,099	604	1,703

\* there was one beneficiary included at the last valuation in error

**SUMMARY OF DATA AT DECEMBER 31, 2008**

	Annuitants	Survivors
Number of annuitants	1,099	604
Total annual payment*	\$2,731,000	\$1,170,000
Average annual payment*	\$2,485	\$1,938
Average age	79.4	78.9
Average period since commencement of annuity	16.0 years	20.6 years

\* Following increase at January 1, 2009

Of the total annual payment amount shown above, \$86,000 is subject to indexing.

**MEMBERSHIP DISTRIBUTION - ANNUITANTS**

	<b>Males</b>		<b>Females</b>	
	<b>No.</b>	<b>Annual Annuity*</b>	<b>No.</b>	<b>Annual Annuity*</b>
< 55	0	\$ 0	1	\$8,637
55-59	6	15,774	0	0
60-64	10	9,067	5	10,545
65-69	39	92,106	19	35,196
70-74	101	254,920	56	72,391
75-79	236	578,494	84	67,513
80-84	210	641,596	94	164,415
85-89	119	367,053	47	42,521
90-94	39	272,216	22	55,289
95+	<u>7</u>	<u>29,051</u>	<u>4</u>	<u>14,422</u>
	767	\$2,260,277	332	\$470,928

\* Following increase at January 1, 2009

**MEMBERSHIP DISTRIBUTION - SURVIVORS**

	<b>Males</b>		<b>Females</b>	
	<b>No.</b>	<b>Annual Annuity*</b>	<b>No.</b>	<b>Annual Annuity*</b>
< 55	8	\$7,372	9	\$15,065
55-59	1	4,261	5	13,665
60-64	1	212	14	29,687
65-69	2	5,812	40	98,291
70-74	5	7,601	65	91,709
75-79	5	10,701	136	314,232
80-84	7	2,924	127	189,465
85-89	9	2,707	117	267,229
90-94	2	540	41	100,387
95+	<u>0</u>	<u>0</u>	<u>10</u>	<u>8,538</u>
	40	\$42,131	564	\$1,128,267

\* Following increase at January 1, 2009

**Section 10 Actuarial Opinion and Cost Certificate**

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**The Municipal Employees' Pension Plan**

**Forming part of the actuarial report dated August 19, 2009 on a valuation of the annuities underwritten under the Plan as at December 31, 2008.**

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I hereby certify that:

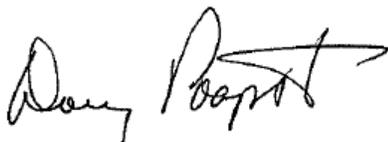
1. The purpose of this report is to determine the present value, as at December 31, 2008, of the future liabilities for all annuities underwritten by the Municipal Employees' Pension Plan.
2. The Plan's going-concern liabilities for all annuities underwritten at December 31, 2008 are equal \$28,363,000, compared to assets of \$25,661,000 or a deficit of \$2,702,000.
3. On a solvency basis, there is a shortfall of \$6,215,000 at December 31, 2008.
4. If this part of the plan were to be wound-up on December 31, 2008, assets would be less than liabilities.

Notwithstanding the foregoing, emerging experience which differs from the assumptions on which this valuation is based will result in gains or losses which will be revealed in subsequent valuations.

In my opinion, for the purposes of the valuation:

- a. the data on which the valuation is based are sufficient and reliable;
- b. the assumptions used are in, aggregate, appropriate;
- c. the methods employed in the valuation are appropriate;
- d. there are no subsequent events that occurred after the valuation date.

This valuation report has been prepared, and my opinions given, in accordance with accepted actuarial practice.



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A. Douglas Poapst,  
Fellow of the Society of Actuaries  
Fellow of the Canadian Institute of Actuaries

August 19, 2009

**Section 11 Plan Sponsor Certification**

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With respect to the Annuities underwritten by the Municipal Employees' Pension Plan, forming part of an actuarial report on a valuation of the Plan as of December 31, 2008:

I hereby certify that, to the best of my knowledge and belief,

- (a) The summary of plan provisions contained in this report is a complete and accurate summary of the terms of the plan.
- (b) The membership summarized in this report is a complete and accurate description of all persons who are entitled to benefits under the terms of the plan in respect of annuities issued to the date of the valuation.
- (c) All events subsequent to the valuation date that may have an impact on the results of the valuation have been communicated to the actuary.

August 19, 2009



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Date

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Public Employees Benefits Agency  
Plan Administrator