



**A Report on the
Actuarial Valuation of the
Saskatchewan Municipal Employees' Pension Plan
as at December 31, 2009**

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Section 1 Executive Summary

INTRODUCTION

This report has been prepared at the request of the Saskatchewan Municipal Employees' Pension Commission to determine the funding parameters of the defined benefit part of the plan as at December 31, 2009. Effective January 1, 2010, the general member contribution rate was increased to 6.4% from 5.4% and the emergency member contribution rate was increased to 8.75% from 7.3%. A similar increase, to 7.4% for general members and to 10.2% for emergency members (approval under the Income Tax Act will be required for member contributions exceeding 9%) has been recommended effective January 1, 2011 based on the results of the previous valuation, effective December 31, 2008. This valuation takes into account the effect of the increase at January 1, 2010 and the increase recommended for January 1, 2011.

Based on the results of the previous valuation, future additional allowances were cancelled effective June 1, 2009. Accordingly, all results are shown excluding future additional allowances.

The most recent valuation filed with the regulatory authorities was effective December 31, 2007. For the purposes of filing this valuation with the regulatory authorities, a summary of the changes in financial position from December 31, 2007 to December 31, 2008 under the minimum funding valuation has been included as Appendix A.

This valuation has been performed under a Funding Policy adopted by the Commission to provide a framework for the sound financial management of the plan, and to guide decisions that will have to be made from time to time to restore or maintain a satisfactory funded status. The Funding Policy enables the Commission to be proactive in managing the financial status of the plan, and will help to facilitate communication with stakeholders on the status of the plan.

This report sets forth the results of valuations on both a going-concern and a solvency basis. The going-concern valuation is presented on two bases:

- a. the minimum funding valuation which incorporates incremental investment returns above the lowest-risk portfolio consistent with the investment class allocations in the investment policy, and
- b. the maximum funding valuation which is based on a belief that market yields on long-term government bonds are the best unbiased measure of future investment performance for a lowest-risk investment portfolio, with allowance for a small incremental return.

It is anticipated that the funding status in an actuarial valuation will generally show a surplus on the minimum funding basis and a deficit on the maximum funding basis. In other words, a hypothetical basis which would produce neither a surplus nor a deficit would involve assumptions that fall between the assumptions used for the minimum funding basis and the assumptions used for the maximum funding basis. The Funding Policy dictates that action must be taken if this is not the case, as follows:

- a. If minimum funding reveals a deficit, the Commission must consider reducing benefits or increasing contributions, or
- b. If maximum funding reveals a surplus, the Commission should consider establishing a further reserve to fund future current service cost shortfalls, improving benefits or reducing contributions, but
- c. If an excess surplus as defined in the *Income Tax Act* cannot be avoided, then the Commission must consider improving benefits or reducing contributions to eliminate the excess surplus.

In addition, if the solvency valuation excluding future additional allowances reveals a deficit, the Commission must consider reducing benefits or increasing contributions.

The Commission may also consider taking some action if current funding is approaching either minimum funding (a small surplus) or maximum funding (a small deficit).

RESULTS

Consistent with the assumptions used in the December 31, 2008 valuation, we have assumed real salary increases will be at 2% for the first three years following the valuation and 1% thereafter, recognizing that wage increases in Saskatchewan are expected to be higher than average for at least the short-term.

Financial Position at December 31, 2009

A comparison of the financial position under the minimum and maximum funding valuations as at December 31, 2009 is as follows:

	(thousands of dollars)	
	Minimum Funding	Maximum Funding
Assets at market value	\$1,257,878	\$1,257,878
Adjustment*	<u>62,894</u>	<u>62,894</u>
Adjusted assets (actuarial value)	\$1,320,772	\$1,320,772
Liabilities and reserves	\$1,246,922	\$1,662,846
Surplus/(Deficit)	\$ 73,850	(\$342,074)
As a percentage of actuarial value	5.6%	(25.9%)

*The adjustment to the assets is the effect of the asset smoothing in accordance with the Funding Policy.

In addition, the solvency valuation produces a small excess as follows:

	(000's)
	Solvency
Assets at market value	\$1,257,878
Adjustment*	63,145
Expenses of plan wind-up	<u>(6,472)</u>
Net assets for solvency purposes	\$1,314,551
Total solvency liabilities	\$1,305,448
Excess/(Shortfall)	\$9,103

*The adjustment to the assets is the effect of asset smoothing as permitted under *The Pension Benefits Regulations, 1993*.

Current Service Cost

A comparison of the current service cost in 2010 as a percentage of salary and as dollar amounts under the minimum and maximum funding valuations is as follows:

2010	(% of Salary)	
	Minimum Funding	Maximum Funding
Current service cost	15.3	20.3
Expected contributions	13.0	13.0
Excess normal cost	2.3	7.3

	(thousands of dollars)	
	Minimum Funding	Maximum Funding
Current service cost	\$63,412	\$84,444
Expected contributions	53,954	53,954
Excess normal cost	9,458	30,490

A comparison of the current service cost as a percentage of salary and as dollar amounts under the minimum and maximum funding valuations, after the increases recommended for January 1, 2011 would be as follows:

2011	(% of Salary)	
	Minimum Funding	Maximum Funding
Current service cost	15.3	20.3
Expected contributions	15.0	15.0
Excess normal cost	0.3	5.3

	(thousands of dollars)	
	Minimum Funding	Maximum Funding
Current service cost	\$63,454	\$84,444
Expected contributions	62,496	62,496
Excess normal cost	958	21,948

INCLUDING THE ANNUITY FUND

The Canada Revenue Agency (CRA) required that, with effect from January 1, 2002, self-insured annuities provided under the former municipal plan should be accounted for separately with annuities being charged to that account. In the period up to December 31, 2001, such annuities were included within and paid from the overall fund as required under *The Municipal Employees' Pension Act* (the Act). The Act itself was not changed as a result of the CRA requirement, and thus annuities continue to be paid from the overall fund. However, in order to satisfy CRA, a notional account specifically for annuities is held as part of the overall fund, and separate actuarial valuations are produced for

- a. former plan annuities underwritten in accordance with the Act (valuation report on The Annuities Underwritten by The Municipal Employees' Pension Plan), and
- b. all other obligations in accordance with the Act (this valuation report).

Although CRA requires separate accounting within the overall fund and separate actuarial valuations, it is necessary for the Commission to remain aware of the overall financial position, including the annuity fund. The financial position of the total fund, including the annuity fund results presented in our report dated August 23, 2010, under the minimum and maximum funding valuations as at December 31, 2009 is as follows:

Overall results	(thousands of dollars)	
	Minimum Funding	Maximum Funding
Assets at market value	\$1,283,192	\$1,283,192
Adjustment*	<u>64,160</u>	<u>64,160</u>
Adjusted assets (actuarial value)	1,347,352	1,347,352
Liabilities and reserves	1,274,254	1,692,860
Surplus/(Deficit)	73,098	(345,508)
As a percentage of actuarial value	5.4%	(25.6%)

*The adjustment to the assets is the effect of the asset smoothing in accordance with the Funding Policy.

In addition, the solvency valuation produces a small excess as follows:

Overall results	(000's)
	Solvency
Assets at market value	\$1,283,192
Adjustment*	64,416
Expenses of plan wind-up	<u>(6,965)</u>
Net assets for solvency purposes	1,340,643
Total solvency liabilities	1,335,706
Excess/(Shortfall)	\$4,937

*The adjustment to the assets is the effect of asset smoothing as permitted under *The Pension Benefits Regulations, 1993*.

COMMENTS AND RECOMMENDATIONS

Improved financial returns in 2009 have contributed to a significant improvement of the financial position of the plan on the maximum funding basis and the solvency basis, while a deterioration of the financial position on a minimum funding basis has occurred. On the minimum funding basis, the increase in liabilities resulting from changes in best estimate assumptions more than offset gains from investment returns in 2009. Upon receiving the preliminary 2008 valuation results, the Commission decided to eliminate future additional allowances effective June 1, 2009 and took action to implement a contribution increase for January 1, 2011 in addition to one already planned for January 1, 2010. These actions will help the plan to recover more quickly than would otherwise have been the case.

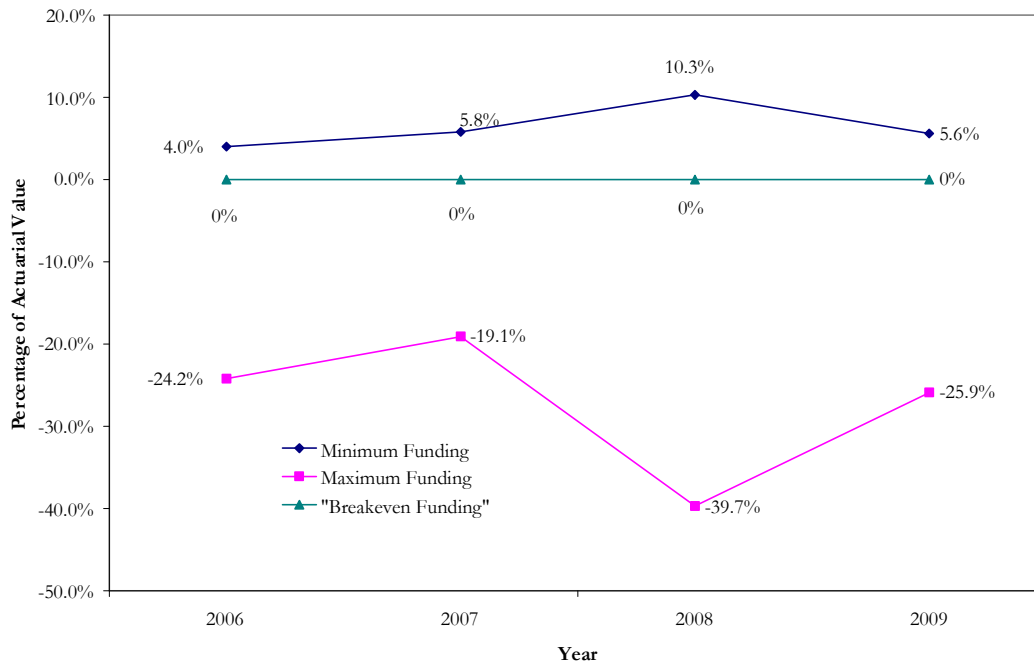
As there is now a surplus on the minimum funding basis, a deficit on the maximum funding basis, and a surplus on at least one basis for the solvency valuation, no actions (beyond the increase in contributions recommended for January 1, 2011) are required under the Funding Policy at this time. However, in accordance with the Funding Policy, the Commission may also determine that action should be taken when a minimum funding valuation has a surplus, but where the surplus is small or where the excess of current service cost over current contributions is large.

Additional comments may be found in Section 6, Current Funding Adequacy.

As there is a surplus under the solvency valuation, it is anticipated that this valuation will be filed with the regulatory authorities.

The relationship between the results of the minimum and maximum funding valuations since the Funding Policy was adopted is presented in the following chart. For this valuation and the previous one, the results do not include the effect of future additional allowances, while they are included in the first two valuations. Surplus or shortfall generated under each of minimum or maximum funding is shown as a percentage of the actuarial value of the fund. The “breakeven funding” scenario is that set of assumptions and reserves which would produce no surplus or deficit.

Surplus (Shortfall)



SUBSEQUENT EVENTS

In this valuation we have taken into consideration an increase in member and employer contributions which has been recommended to the Minister of Finance to be effective January 1, 2011, subject to approval required under the Income Tax Act. We are not aware of any other subsequent events that are relevant to the valuation.

NEXT VALUATION

The most recent valuation report filed with the regulatory authorities was effective December 31, 2007. We recommend that this valuation be filed with the regulatory authorities. The next valuation to be filed with the regulatory authorities should therefore be effective no later than December 31, 2012. The Funding Policy indicates valuations are to be done annually.

We look forward to discussing the contents of this report with you at your convenience.

Respectfully submitted,

ECKLER LTD.



A. Douglas Poapst, FSA, FCIA



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August 23, 2010

Section 2 Asset Data

1. Assets at December 31, 2009

At December 31, 2009, based on the audited financial statements, the assets of the plan measured at market value were as follows:

(thousands of dollars)

Investments	
Short Term	\$17,880
Bonds	230,419
Equities	366,044
Infrastructure	46,815
Pooled Funds	517,233
Real Estate	<u>78,900</u>
	\$1,257,291
Cash	2,555
Accrued Income	2,583
Net Receivables	<u>20,763</u>
	\$1,283,192
Assets attributable to annuity fund*	<u>(25,314)</u>
	\$1,257,878

- * The fund assets include those which support self-insured annuities provided under the former municipal plan. The Canada Revenue Agency required that, with effect from January 1, 2002, these assets should be accounted for separately with annuities being charged to that account. In the period up to December 31, 2001, such annuities were paid from the fund. The amount attributable to the annuity fund at December 31, 2001 was determined by a report prepared by us and dated November 26, 2002, and this has been updated to the valuation date by adding interest and the purchase price of new annuities and debiting annuities paid and expenses.

2. Summary of Change in Net Assets

The following summarizes the changes in net assets for the full year 2009 based on the audited financial statements.

	2009	
	(thousands of dollars)	
	Defined Benefit	Retirement Annuities
At start	\$1,123,855	\$25,612
Employee contributions	22,922	
Employer contributions	22,214	
Arrears contributions	29	
Transfers-in	641	
Transfer to annuity fund ¹	(268)	268
Investment income	41,259	883
Change in market value	121,837	2,606
Pensions paid	(39,531)	(3,856)
Transfers, refunds etc.	(26,302)	
Administration costs	(3,692)	(78)
Investment & custodial fees	<u>(5,086)</u>	<u>(121)</u>
At end	\$1,257,878	\$25,314
Rate of return ²	14.2%	14.2%

Notes:

1. This amount is in respect of plan members who had some defined contribution liabilities under the former municipal plan. On retirement, these amounts were transferred to the Retirement Annuity portion of the fund.
2. The rate of return is net of investment expenses and assumes that all cash flows, except prior year transfers to the annuity fund, occur on July 1.

Section 3 Minimum Funding Valuation

1. Funding Policy

In accordance with the Funding Policy, actuarial assumptions for minimum funding are to be determined by the actuary as best estimate assumptions, modified to include the minimum margins or provision for adverse deviations that may be required by any relevant regulatory or professional body. The best estimate assumptions will include an assumption about the future investment return on plan assets, net of investment-related expenses, used to discount future liabilities. The future investment return assumption will be determined with due consideration to the investment policy.

2. Actuarial Assumptions, Methods and Reserves

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

a. Actuarial Assumptions

For the minimum funding valuation we have assumed that future investment returns will be 6.0%.

This rate is based on our analysis of expected investment returns, reduced by investment related expenses of 0.25%. Expected investment returns were determined to be approximately 6.4% gross, and 6.1% net, based on current market yields on fixed income investments and recognizing appropriate risk premiums for the equity and real estate components of the current investment mix. The current investment policy fund benchmark investment mix is shown below. New investment guidelines are expected to reflect a 5% allocation to infrastructure to be phased in over a period of two to three years.

Investment Mix

Bonds and Mortgages	35%
Equity	
Canada	20%
U.S.	18%
Global/EAFE	18%
Real Estate	6%
Money Market	<u>3%</u>
	100%

In the previous funding valuation we assumed that the investment return would be 6.5%.

b. Methods

For the asset value we use a method which smoothes out the investment returns over a period of 5 years. We calculate the investment return assuming that the fund earned 6.0% each year net of investment fees (the investment return assumption for minimum funding) and the balance of the actual investment income is smoothed over 5 years. In 2009, for example, an investment return of 6.0% would have required investment earnings of \$68.138 million. In 2009 the fund earned \$161.378 million net of investment fees. The excess of \$93.240 million is recognized at the rate of 20% over the 5 years 2009 to 2013.

The actuarial value expressed as a percentage of market value for the total fund is therefore determined as follows:

(thousands of dollars)			
Market value of total fund (including annuity fund)			\$1,283,192
2009 excess over 6.0%	93,240	Unrecognized (80%)	(74,592)
2008 excess over 6.0%	(315,431)	Unrecognized (60%)	189,259
2007 excess over 6.0%	(27,483)	Unrecognized (40%)	10,993
2006 excess over 6.0%	89,623	Unrecognized (20%)	(17,925)
Actuarial value of total fund (incl. annuity fund)			\$1,390,927
			or 108.4% of market value

Under the Funding Policy the actuarial value of assets is limited to not more than 105%, nor less than 95%, of the corresponding market value of assets. Applying this percentage to the part of the fund other than that supporting the annuities we have

Market value		\$1,257,878
Investment Reserve 5%		<u>62,894</u>
Actuarial Value 105%		\$1,320,772

c. Reserves

In accordance with the Funding Policy, reserves under the minimum funding valuation will be established as follows (in lieu of an explicit assumption where relevant):

- i) Administration expenses – the present value of full administration expenses for a 3-year period following the valuation date.

The total administration expenses in the last 3 years were \$9.640 million or an average of \$3.213 million per year. The expense reserve for the minimum funding valuation is the present value at 6.0% of the expenses assumed to be \$3.213 million per year for the next 3 year period, or \$9.170 million including a component for future inflation.
- ii) Excess normal cost – the present value of the excess, if any, of normal costs over the fixed contributions at current rates, for a 3-year period following the valuation date. We have established a reserve of \$10.285 million for general members and \$0.608 million for emergency members.
- iii) Accruals for disabled members – the present value of all future accruals of presently disabled members. We have established a reserve of \$7.628 million to cover all the future accruals of the currently disabled members.

3. 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, methods and reserves outlined in this section, the results of the minimum funding valuation at December 31, 2009 compared with the results of the funding valuation at December 31, 2008 (the effective date of the last full valuation) were as follows:

	<u>(thousands of dollars)</u>	
	<u>Dec. 31, 2009</u>	<u>Dec. 31, 2008</u>
Assets at market value	\$1,257,878	\$1,126,380
Adjustment*	<u>62,894</u>	<u>56,319</u>
Adjusted assets (actuarial value)	\$1,320,772	\$1,182,699
General members	\$662,027	\$538,865
Emergency members	45,561	40,300
Disabled members	10,461	9,384
Pensioners	386,372	355,760
Survivors	31,758	29,860
Deferred pensioners	50,141	44,133
Pending	32,805	27,361
Former Plan accounts and AVCs	<u>107</u>	<u>171</u>
Liabilities	\$1,219,232	\$1,045,834
Liability reserve	18,520	7,520
Expense reserve	<u>9,170</u>	<u>7,563</u>
Liabilities and reserves	\$1,246,922	\$1,060,917
Surplus/(Deficit)	\$ 73,850	\$121,782

*The adjustment to the assets is the effect of the asset smoothing in accordance with the Funding Policy.

4. Summary of Changes in Financial Position

At the previous valuation, the surplus reported was \$121.782 million. At this valuation there is a surplus of \$73.850 million under the minimum funding valuation. The changes in financial position may be summarized as follows:

	\$000's
Surplus at the previous valuation	\$121,782
Interest on surplus at 6.5% for one year	7,915
Fund earning more than 6.5% ¹	85,952
Change in assumptions ²	(106,000)
Demographic experience ³	(2,598)
Salary loss ⁴	(4,074)
Interest credits on contributions higher than assumed ⁵	(3,384)
Pensioner mortality gain ⁶	(1,087)
New entrants ⁷	335
Expense reserve ⁸	(4,925)
Liability reserve ⁹	(16,425)
Balancing item ¹³	<u>(3,641)</u>
Surplus at this valuation	\$73,850

Notes:

1. In 2009, the fund earned, on the basis of the "actuarial" asset values used in the minimum funding valuation, a rate of return net of investment expenses of 14.2% compared with the 6.5 % assumed in the previous valuation. This has produced an investment gain \$85.952 million.
2. The valuation interest rate has decreased to 6.5% from 6.0%. In addition, the assumed annual inflation rate has been increased from 2.0% at the previous valuation to 2.5%. The salary increase assumption for the three years following the valuation date continues at 2% above inflation reducing to 1% above inflation thereafter. In addition the mortality table has been changed and an assumption regarding lump sum values has been introduced. The effect of these changes is an increase in liabilities of \$106.000 million.
3. We reran the previous valuation for the active members assuming that we had correctly forecast all the decrements and resulting benefit payments. We also considered the impact on the liabilities for those who moved from pending back to active status. On that basis we determined that the liabilities determined in the previous valuation were less than the required amount. With interest, the increase in liabilities is \$2.598 million.
4. We determined that changes in salary and in the YMPE different from expected in the previous valuation accounted for an increase in liabilities of \$4.074 million.
5. In the previous valuation, we assumed that interest credited to member contribution accounts would be 6.5% per annum in the future. In 2009 the actual rate credited was approximately 10.1%. Therefore, contribution accounts were higher than expected as were liabilities under the 50% rule. We estimated the loss to be \$3.384 million.
6. There was a loss on pensioner and survivor mortality of \$1.087 million in 2009.
7. New entrants in the period who are still active at the valuation date accrued fewer benefits than the accumulated matching contributions and amounts from the reserve to fund excess current service costs. We estimate the excess to be \$0.335 million.
8. In the previous valuation we established a reserve for expenses of \$7.563 million. If we add interest to this amount at 6.5% and debit the result by the expenses actually paid, the difference between the amount remaining and the reserve required at this valuation is \$4.925 million, which is taken from the surplus.
9. Similarly, we established a reserve of \$7.520 for the shortfall in contributions for the years 2009 through 2011 and for the future accruals members who were disabled at the time. Adding interest at 6.5% and debiting the result by the amount required to fund the shortfall in 2009, the difference between the amount remaining and the reserve required at this valuation is \$16.425 million, which is taken from surplus.
10. This reconciliation involves a number of approximations and the balancing item of \$3.641 million represents less than 0.3% of liabilities and reserves.

5. Current Service Cost

In 2009, general members contributed 5.4% and emergency members 7.3% of earnings with employers matching these contributions. Contributions were increased to 6.4% and 8.75%, respectively, effective January 1, 2010. Based on the results of the previous valuation, the Commission has recommended to the Minister a further increase to 7.4% and 10.2%, respectively, effective January 1, 2011 and subject to approval required under the Income Tax Act. Under the minimum funding valuation the cost of future benefit accruals is somewhat higher than those matching contributions in the three years following this valuation. The excess is the “excess normal cost” referred to in the Funding Policy, and the value of the excess normal cost for 3 years after the valuation date is included in the liability reserve shown in the financial position of the plan. After the recommended increase January 1, 2011, the member contributions and matching employer contributions will be nearly sufficient to cover the current service cost.

The following tables show the current service cost as a percentage of salary and as a dollar amount and compares these with the total matching contributions expected in 2010:

2010	% of Salary		
	General	Emergency	Total
Current service cost	15.0	20.7	15.3
Expected member contributions	6.4	8.75	6.5
Expected employer contributions	6.4	8.75	6.5
Excess normal cost	2.2	3.2	2.3

	Thousands of Dollars		
	General	Emergency	Total
Current service cost	\$59,831	\$3,581	\$63,412
Expected member contributions	25,460	1,517	26,977
Expected employer contributions	25,460	1,517	26,977
Excess normal cost	8,911	547	9,458

The following tables show the current service cost as a percentage of salary and as a dollar amount and compares these with the total matching contributions expected after the increase in contributions January 1, 2011:

2011	% of Salary		
	General	Emergency	Total
Current service cost	15.0	20.7	15.3
Expected member contributions	7.4	10.2	7.5
Expected employer contributions	7.4	10.2	7.5
Excess normal cost/(contributions)	0.2	0.3	0.3

	Thousands of Dollars		
	General	Emergency	Total
Current service cost	\$59,871	\$3,583	\$63,454
Expected member contributions	29,478	1,770	31,248
Expected employer contributions	29,478	1,770	31,248
Excess normal cost/(contributions)	915	43	958

Section 4 Maximum Funding Valuation

1. Funding Policy

In accordance with the Funding Policy actuarial assumptions and reserves for the maximum funding valuation are to be the same as for the minimum funding valuation, with two exceptions:

- i. Administration expenses – may be established as a target reserve amount necessary to cover all administration expenses applicable to benefits earned to date.
- ii. The assumed rate of return on plan assets, net of investment-related expenses, will be determined as the effective interest rate equivalent to the market yield on Canada bonds, 10-years and over, plus 0.50%.

2. Actuarial Assumptions, Methods and Reserves

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

a. Actuarial Assumptions

As of the date of the valuation the nominal market yield on Canada bonds, 10-years and over was 4.08% or 4.12% annualized. Thus for the maximum funding valuation we have assumed that future investment returns will be 4.5% (4.12% + 0.50% rounded to nearest 0.25%). In the previous valuation we assumed the return would be 4.0%.

b. Methods

For the asset value we use a method which smoothes out the investment returns over a period of 5 years. We calculate the investment return assuming that the fund earned 4.5% each year net of investment fees (the investment return assumption for maximum funding) and the balance of the actual investment income is smoothed over 5 years. In 2009, for example, an investment return of 4.5% would have required investment earnings of \$51.104 million. In 2009 the fund earned \$161.378 million net of investment fees. The excess of \$110.274 million is recognized at the rate of 20% over the 5 years 2009 to 2013.

The actuarial value expressed as a percentage of market value for the total fund is therefore determined as follows:

			(thousands of dollars)
Market value of total fund (including annuity fund)			\$1,283,192
2009 excess over 4.5%	110,274	Unrecognized (80%)	(88,219)
2008 excess over 4.5%	(294,471)	Unrecognized (60%)	176,683
2007 excess over 4.5%	(6,861)	Unrecognized (40%)	2,744
2006 excess over 4.5%	108,254	Unrecognized (20%)	(21,651)
Actuarial value of total fund (incl. annuity fund)			\$1,352,749
			Or 105.42% of market value

Under the Funding Policy the actuarial value of assets is limited to not more than 105%, nor less than 95%, of the corresponding market value of assets. Applying this percentage to the part of the fund other than that supporting the annuities, we have

Market value		\$1,257,878
Investment Reserve	5%	<u>62,894</u>
Actuarial Value	105%	\$1,320,772

c. Reserves

In accordance with the Funding Policy, reserves for the maximum funding valuation are to be the same as for the minimum funding valuation, with the exception that the administration expense reserve may be established as a target amount necessary to cover all administration expenses applicable to benefits earned to date. The reserves under the maximum funding valuation are established as follows:

- i) The total administration expenses in the last 3 years were \$9.640 million or an average of \$3.213 million per year – about 4.8% of benefits paid. Thus our target reserve is established at 4.848% of benefits (liabilities) or \$73.140 million.
- ii) Excess normal cost – the present value of the excess, if any, of normal costs over the fixed contributions at current rates, for a 3-year period following the valuation date. We have established a reserve of \$66.138 million for general members and \$4.049 million for emergency members.
- iii) Accruals for disabled members – the present value of all future accruals of presently disabled members. We have established a reserve of \$10.862 million to cover all the future accruals of the currently disabled members.

3. 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, methods and reserves outlined in this section, the results of the maximum funding valuation at December 31, 2009 compared with the results of the funding valuation at December 31, 2008 (the effective date of the last full valuation) were as follows:

	<u>(thousands of dollars)</u>	
	<u>Dec. 31, 2009</u>	<u>Dec 31, 2008</u>
Assets at market value	\$1,257,878	\$1,126,380
Adjustment*	<u>62,894</u>	<u>56,319</u>
Adjusted assets (actuarial value)	\$1,320,772	\$1,182,699
General members	\$852,968	\$823,073
Emergency members	58,681	61,557
Disabled members	13,235	13,300
Pensioners	441,470	442,893
Survivors	35,251	35,547
Deferred pensioners	63,923	65,594
Pending	43,022	43,532
Former Plan accounts and AVCs	<u>107</u>	<u>171</u>
Liabilities	\$1,508,657	\$1,485,667
Liability reserve	81,049	96,609
Expense reserve	<u>73,140</u>	<u>70,325</u>
Total liabilities and reserves	\$1,662,846	\$1,652,601
Surplus/(Deficit)	(\$342,074)	(\$469,902)

*The adjustment to the assets is the effect of the asset smoothing in accordance with the Funding Policy.

4. Current Service Cost

In 2009 general members contributed 5.4% and emergency members 7.3% of earnings with employers matching these contributions. Effective January 1, 2010, these were increased to 6.4% and 8.75%, respectively. The Commission has recommended to the Minister that these be increased to 7.4% and 10.2%, respectively, effective January 1, 2011, subject to approval required under the Income Tax Act. Under the maximum funding valuation the cost of future benefit accruals is higher than those matching contributions. The excess is the “excess normal cost” referred to in the Funding Policy, and the value of the excess normal cost for 3 years after the valuation date is included in the liability reserve shown in the financial position of the plan.

The following tables show the current service cost as a percentage of salary and as a dollar amount and compares these with the total matching contributions expected in 2010:

2010	% of Salary		
	General	Emergency	Total
Current service cost	20.0	27.7	20.3
Expected member contributions	6.4	8.75	6.5
Expected employer contributions	6.4	8.75	6.5
Excess normal cost	7.2	10.2	7.3

	Thousands of Dollars		
	General	Emergency	Total
Current service cost	\$79,642	\$4,802	\$84,444
Expected member contributions	25,460	1,517	26,977
Expected employer contributions	25,460	1,517	26,977
Excess normal cost	28,722	1,768	30,490

The following tables show the current service cost as a percentage of salary and as a dollar amount and compares these with the total matching contributions expected after the increase effective January 1, 2011:

2011	% of Salary		
	General	Emergency	Total
Current service cost	20.0	27.7	20.3
Expected member contributions	7.4	10.2	7.5
Expected employer contributions	7.4	10.2	7.5
Excess normal cost	5.2	7.3	5.3

	Thousands of Dollars		
	General	Emergency	Total
Current service cost	\$79,642	\$4,802	\$84,444
Expected member contributions	29,478	1,770	31,248
Expected employer contributions	29,478	1,770	31,248
Excess normal cost	20,686	1,262	21,948

Section 5 Solvency Valuation

1. Funding Policy

A solvency valuation assumes that the plan is terminated and wound-up on the valuation date and that benefits are settled through the purchase of annuities and the transfer-out of commuted values.

In accordance with the Funding Policy, solvency valuation results will be prepared on a basis consistent with the requirements of *The Pension Benefits Act, 1992* and accepted actuarial practice, and on two alternative bases:

1. Reflecting all benefits and terms as provided in the Act and regulations, including benefits and future benefits established by policies adopted by the Commission (e.g. "additional allowances").
2. As in point 1. above, but excluding any future additional allowances that would be granted solely as a result of existing policies adopted by the Commission.

As future additional allowances were cancelled effective June 1, 2009, these two bases are the same.

2. Actuarial Assumptions, Methods and Reserves

In this section we describe the actuarial assumptions, methods and reserves that are specific to the solvency valuation.

a. Assumptions

- i. Salary Projection - A salary projection is not required as the accrued benefits are based on the salary history as of the wind-up date.
- ii. Commuted Value - We assume that all members not eligible to retire immediately would transfer the lump sum commuted value out of the Plan. The lump sum commuted values are calculated based on the Canadian Institute of Actuaries (CIA) Standards of Practice for Commuted Values effective April 2009 as they apply to calculations made in December 2009 (specifically by assuming mortality in accordance with UP94@2020, and using a discount rate of 3.9% for the first ten years following the valuation date and 5.4% thereafter).
- iii. Annuity Purchase - We assume that annuities would be purchased for all current pensioners and all other members eligible to retire immediately. The purchase price for annuities is approximated by assuming mortality in accordance with the UP94@2020 mortality table and a discount rate of 4.50%. This is the basis recommended by the Canadian Institute of Actuaries for the valuation of immediate pensions for solvency valuations performed as at December 31, 2009.
- iv. For both commuted value and annuity purchase liability calculations we assume 90% of male members and 70% of female members are married and that the female spouse is four years younger than the male spouse, if marital status and age of spouse are unknown.

b. Methods

Our postulated scenario on wind-up of the pension plan is that members would be eligible for subsidized early retirement benefits etc. based on service accrued to the date of wind-up only. This is in keeping with the terms of the pension plan which provide for eligibility based on credited or contributory service. The liability under the solvency valuation is determined to be the present value at the valuation date of future pension payments. The value of the member's accrued benefits is compared to the accumulated contributions with interest. If the contributions with interest are greater than 50% of the liability, the liability is increased by the difference.

For the asset value, in the previous valuation we used the market value of assets. For this valuation we use a method which smoothes out the investment returns over a period of 5 years, as permitted under *The Pension Benefits Regulations, 1993*. We calculate the investment return assuming that the fund earned 4.3% each year net of investment fees (the average rate that applies to solvency valuation in the first 5 years) and the balance of the actual investment income is smoothed over 5 years. In 2009, for example, an investment return of 4.3% would have required investment earnings of \$48.833 million. In 2009 the fund earned \$161.378 million net of investment fees. The excess of \$112.545 million is recognized at the rate of 20% over the 5 years 2009 to 2013.

The actuarial value expressed as a percentage of market value for the total fund is therefore determined as follows:

	(000's)
Market value of total fund (including annuity fund)	\$1,283,192
2009 excess over 4.3% 112,545 Unrecognized (80%)	(90,036)
2008 excess over 4.3% (291,676) Unrecognized (60%)	175,006
2007 excess over 4.3% (4,112) Unrecognized (40%)	1,645
2006 excess over 4.3% 110,738 Unrecognized (20%)	(22,148)
Actuarial value of total fund (incl. annuity fund)	\$1,347,659
Or	105.02% of market value

Applying this percentage to the part of the fund other than that supporting the annuities, we have

Market value	\$1,257,878
Adjustment 5.02% (asset smoothing)	<u>63,145</u>
Actuarial Value 105.02%	\$1,321,023

c. Reserves

No reserves are required, other than for the expenses required for plan wind-up which are assumed to be \$300 per member (in all categories).

3. 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 as follows:

	(000's)
	Dec 31, 2009
Assets at market value	\$1,257,878
Adjustment*	63,145
Expenses of plan wind-up	<u>(6,472)</u>
Net assets for solvency purposes	\$1,314,551
General members	676,435
Emergency members	42,306
Disabled members	9,360
Pensioners	440,850
Survivors	35,387
Deferred pensioners	60,516
Pending	40,423
Former Plan accounts and AVCs	<u>171</u>
Total	\$1,305,448
Excess/(Shortfall)	\$ 9,103
Solvency ratio	1:1

*The adjustment to the assets is the effect of asset smoothing as permitted under *The Pension Benefits Regulations, 1993*.

4. Recommended Commuted Value Basis

We recommend that commuted values be determined in accordance with the Standards of Practice of the Canadian Institute of Actuaries with respect to commuted values as of the date of calculation (the "Standards") and where the Standards are not specific, effective January 1, 2011, the assumptions used to determine the commuted value of a pension would be as follows:

1. Mortality on a unisex basis: 50% male.
2. Probability of eligible spouse at retirement: 80%*
3. Age of spouse: 0.50 years younger than member*
4. Discount rates: As specified in the Standards for non-indexed pensions.
5. Future increases, where applicable: There will be no allowance made in the calculations for future pension increases.

* where the pension is assumed to commence immediately, the actual marital status and age of spouse would be used.

Lump sum values will apply for 120 days after the calculation date. After 120 days a recalculation will be made using the then current basis. For transfers within 120 days of the calculation date, the commuted value will be increased with interest at the discount rate used to calculate the commuted value for the period between the calculation date and the transfer date.

Section 6 Current Funding Adequacy

1. Funding Requirements

a. Comparison of Minimum and Maximum Funding

A comparison of the financial position under the minimum and maximum funding valuations as at December 31, 2009 is as follows:

	(thousands of dollars)	
	Minimum Funding	Maximum Funding
Assets at market value	\$1,257,878	\$1,257,878
Adjustment*	<u>62,894</u>	<u>62,894</u>
Adjusted assets (actuarial value)	\$1,320,772	\$1,320,772
Liabilities	\$1,219,232	\$1,508,657
Liability reserve	18,520	81,049
Expense reserve	<u>9,170</u>	<u>73,140</u>
	\$1,246,922	\$1,662,846
Surplus/(Deficit)	\$ 73,850	(\$342,074)
As a percentage of actuarial value	5.6%	(25.9%)

*The adjustment to the assets is the effect of the asset smoothing in accordance with the Funding Policy.

b. Solvency Valuation

The results of the solvency valuation as at December 31, 2009 are as follows:

	(000's)
Assets at market value	\$1,257,878
Adjustment*	63,145
Expenses of plan wind-up	<u>(6,472)</u>
Net assets for solvency purposes	\$1,314,551
Total solvency liabilities	\$1,305,448
Excess/(Shortfall)	\$9,103

*The adjustment to the assets is the effect of asset smoothing as permitted under *The Pension Benefits Regulations, 1993*.

c. Current Service Cost

A comparison of the current service cost as a percentage of salary and as dollar amounts under the minimum and maximum funding valuations in 2010 is as follows:

2010	(% of Salary)	
	Minimum Funding	Maximum Funding
Current service cost	15.3	20.3
Expected contributions	13.0	13.0
Excess normal cost	2.3	7.3

	(thousands of dollars)	
	Minimum Funding	Maximum Funding
Current service cost	\$63,412	\$84,444
Expected contributions	53,954	53,954
Excess normal cost	9,458	30,490

A comparison of the current service cost as a percentage of salary and as dollar amounts under the minimum and maximum funding valuations after the increases effective January 1, 2011 is as follows:

2011	(% of Salary)	
	Minimum Funding	Maximum Funding
Current service cost	15.3	20.3
Expected contributions	15.0	15.0
Excess normal cost	0.3	5.3

	(thousands of dollars)	
	Minimum Funding	Maximum Funding
Current service cost	\$63,454	\$84,444
Expected contributions	62,496	62,496
Excess normal cost	958	21,948

2. Comments

Improved financial returns in 2009 have contributed to a significant improvement of the financial position of the plan on the maximum funding basis and the solvency basis, while a deterioration of the financial position on a minimum funding basis has occurred.

1. There is a small excess on a solvency basis. At the previous valuation there was a shortfall of \$55.629 million when future additional allowances were excluded; at this valuation there is an excess of \$9.103 million mainly due to the improvement in the market value of assets and the use of the smoothed asset values.
2. The surplus on a minimum funding basis has decreased from \$121.782 million at December 31, 2008 to \$73.850 million (from 10.3% to 5.6% of the actuarial value of assets). The increase in asset value due to improved financial returns was more than offset by an increase in the liabilities due to a decrease in the assumption for future market returns from 6.5% to 6.0%, and an increase in the assumed rate of inflation from 2.0% to 2.5%. Under the Funding Policy, the assumptions used for the minimum funding valuation are intended to be best estimate assumptions of future market returns. In addition, a change in the mortality table and the introduction of an explicit assumption for lump sum values on termination of employment also served to increase liabilities.
3. The deficit on a maximum funding basis has decreased from \$469.902 million at December 31, 2008 to \$342.074 (from 39.7% to 25.9% of the actuarial value of assets). This is due to good market returns and an increase in the valuation interest rate from 4.0% to 4.5%. Under the Funding Policy, the interest assumption for the maximum funding valuation is based on the market yields on long-term government bonds.

The solvency and minimum funding valuation determine the funding required under *The Pension Benefits Act, 1992*, and *The Pension Benefits Regulations, 1993*.

Although the contribution rate increased effective January 1, 2010, current contributions of 6.4% of salary for general members and 8.75% for emergency members, matched by the employers, are insufficient to fund benefits accruing in 2010. This excess of the cost of benefits accruing each year over the contributions is referred to as the excess normal cost. Under minimum funding, a reserve to cover the excess normal cost for the next 3 years is established.

The increase in contributions effective January 1, 2011, which the Commission has recommended to the Minister of Finance, will reduce the need for this reserve in future. However, the amount of the reserve required will be affected by the assumptions and by changes in the demographics of the covered members.

Under the Funding Policy (excerpts of which are reproduced in this section), action is required in situations where there is either:

- a. a shortfall (i.e. deficit) on the minimum funding basis,
- b. an excess surplus, as defined under the *Income Tax Act*, on the maximum funding basis, or
- c. where a solvency deficiency exists when future additional allowances are excluded from the liabilities.

As there is a surplus on the minimum funding basis, a deficit on the maximum funding basis, and a surplus on a solvency basis, no actions are required at this time. However, in accordance with the funding policy, the Commission may also determine that action should be taken when a minimum funding valuation has a surplus, but where the surplus is small or where the excess of normal cost over current contributions is large.

3. Funding Policy

The Funding Policy indicates that in certain situations action must or may be taken as follows:

Minimum Funding Valuation

If the results of a minimum funding valuation indicate that a shortfall exists in the funding of the plan (i.e. liabilities and reserves exceed the assets of the plan), then some action is required to either increase contributions to the plan or decrease benefits. The actions to be taken in this event can include any combination of:

- a. Change existing policy regarding granting future additional allowances.
- b. Suspend, cancel or reduce existing additional allowances that have been granted in accordance with policies previously adopted by the Commission.
- c. Cause contributions to the fund to be increased, by way of existing provisions in the Act and by making a recommendation to the Lieutenant Governor in Council regarding the manner of determining the amount of member contributions.
- d. Make recommendations to the Legislature regarding benefit reductions appropriate to the financial circumstances of the plan.

The Commission may also determine that any of the above actions should be taken when a minimum funding valuation does not have a shortfall, but where the surplus is small or where the excess of normal cost over current contributions is large.

Maximum Funding Valuation

If the results of a maximum funding valuation indicate that a surplus exists, the Commission should consider actions to eliminate or reduce the surplus. Some action must be taken if the surplus is sufficient that an excess surplus situation under the *Income Tax Act* cannot be avoided. The actions to be taken can include any combination of:

1. Fund excess normal costs beyond three years to the extent allowed under the Income Tax Act.

2. Change policy or grant additional allowances, as allowed under the Act.
3. Cause contributions to the fund to be decreased, by way of existing provisions in the Act and by making a recommendation to the Lieutenant Governor in Council regarding the manner of determining the amount of member contributions.
4. Make recommendations to the Legislature regarding benefit improvements appropriate to the financial circumstances of the plan.

The Commission may also determine that any of the above actions should be taken when a maximum funding valuation does not have a surplus, but where the shortfall on a maximum funding basis is small or where the excess of current contributions over normal cost is large.

Solvency Valuation

If a solvency valuation indicates a solvency deficiency exists when future additional allowances are excluded from the liabilities, then action must be taken. The action to be taken in this event can include any combination of the following as may be necessary to satisfy regulatory solvency funding requirements:

1. Suspend, cancel or reduce existing additional allowances that have been granted in accordance with policies previously adopted by the Commission.
2. Cause contributions to the fund to be increased, by way of existing provisions in the Act and by making a recommendation to the Lieutenant Governor in Council regarding the manner of determining the amount of member contributions.
3. Make recommendations to the Legislature regarding benefit changes appropriate to the financial circumstances of the plan.

Section 7 Summary of Principal Plan Provisions

The following is a brief summary of the provisions of the plan which are of importance in determining the actuarial liabilities. This summary includes all plan amendments up to December 31, 2009.

Eligibility

Permanent employees, who are employees employed on an ongoing basis (full-time, part-time and seasonal) join the plan on the date they become an employee.

Non-permanent employees may join the plan on the date of hire and must join the plan if the employee works at least 700 hours in two consecutive years. Once an employee has joined the plan, he/she remains a member even though the hours of work reduce to less than 700 hours in a year.

Plan members who move from one participating employer to another, must immediately participate with the second employer regardless of the terms of employment with the second employer.

Emergency members are those designated by their employers.

Members' Contributions

Effective January 1, 2010, general members are required to contribute an amount equal to 6.4% (previously 5.4%) of their earnings. Emergency members contribute 8.75% (previously 7.3%) of their earnings. The Commission has recommended to the Minister of Finance that these rates should increase to 7.4% and 10.2%, respectively, effective January 1, 2011. Earnings include regular remuneration and commissions, but exclude overtime pay and bonuses.

The interest rate credited on member contributions is the net fund rate of return. Prior to August 1, 2009 it was the net fund rate of return smoothed over a period of four years.

Employers' Contributions

The plan provides that employers are obligated to contribute an amount equal to the required employee contributions.

Normal Retirement Date

The normal retirement date for general members is the first day of the month immediately following the attainment of age 65. The normal retirement date of emergency members is the first day of the month immediately following the attainment of age 60.

Early Retirement Date*General Members*

General members can retire any time after satisfying the rule of 80 (age plus years of continuous service = 80) with an unreduced pension. They can also retire having attained age 55 with a minimum of 15 years of continuous service but in that event, the pension is reduced by 3% for each year prior to the date when the member would satisfy the rule of 80 assuming service had continued, or would reach normal retirement age, if earlier.

Emergency Members

Emergency members can retire at any time after satisfying any of the age of 55, the rule of 75 or 25 years of continuous service with an unreduced pension. They can also retire after age 45 on satisfying the rule of 70 but in that event, the pension in respect of service after 1991 is reduced by 3% for each year prior to the date when the member would satisfy the rule of 75 assuming that service had continued, or would reach normal retirement age, if earlier.

Retirement Income

Upon retirement, a member is entitled to a retirement benefit based on the member's average highest salary and contributory service, where the average highest salary is the total salary of the member during the three years of highest salary divided by three, as follows:

1. For benefits payable before age 65:

All members are entitled to a pension of 2% of the average highest salary multiplied by the number of years of contributory service.

2. For benefits payable on and after age 65:

a) general members with a date of entry on or after January 1, 1993:

- are entitled to a pension of 1.5% of the average highest salary multiplied by the number of years of contributory service, excluding the years 2001 to 2005; plus
- a pension of 1.8% of the average highest salary multiplied by the number of years of contributory service between January 1, 2001 and December 31, 2005.

b) emergency members with a date of entry on or after January 1, 1993:

- are entitled to a pension of 1.7% of the average highest salary multiplied by the number of years of contributory service excluding the years 2001 to 2005; plus
- a pension of 2% of the average highest salary multiplied by the number of years of contributory service between January 1, 2001 and December 31, 2005.

c) general members with a date of entry prior to January 1, 1993:

- with respect to service prior to January 1, 1990 and service between January 1, 2001 and December 31, 2005, are entitled to a pension for each year of contributory service equal to the greater of:
 - (a) 1.3% times the average highest salary not in excess of the three year average YMPE plus 2% times the average highest salary in excess of the three year average YMPE, and
 - (b) 1.8% times the average highest salary.

- with respect to service on or after January 1, 1990, but excluding years 2001 to 2005, are entitled to a pension for each year of contributory service equal to the greater of:
 - (a) 1.3% times the average highest salary not in excess of the three year average YMPE plus 2% times the average highest salary in excess of the three year average YMPE, and
 - (b) 1.5% times the average highest salary.
- d) emergency members with a date of entry prior to January 1, 1993:
 - with respect to service prior to January 1, 1990 and service between January 1, 2001 and December 31, 2005 are entitled to a pension for each year of contributory service equal to 2% times the average highest salary:
 - with respect to service on or after January 1, 1990, but excluding years 2001 to 2005, are entitled to a pension for each year of contributory service equal to the greater of:
 - (a) 1.3% times the average highest salary not in excess of the three year average YMPE plus 2% times the average highest salary in excess of the three year average YMPE, and
 - (b) 1.7% times the average highest salary.

Pre-retirement Death Benefits

Upon the death of a member prior to retirement, an amount equal to the sum of the member's additional contribution account, the member's annuity and annuity surplus account, the employer additional contribution account and the employer annuity account, plus the commuted value of the defined benefit pension is paid to the member's spouse, beneficiary or estate.

Post-retirement Death Benefits

If a retired member who has a spouse at retirement dies, 100% of the pension payable to the member is guaranteed to be paid for five years from the retired member's date of retirement. After the guaranteed payments are made, 60% of the pension to which the retired member was entitled shall be paid to the surviving spouse for life. In the event of the death of both the retired member and the retired member's spouse, the 60% allowance will be payable to designated dependents named at retirement (up to age 18).

If the member does not have a spouse at retirement, a single life annuity with a guarantee period of 15 years is payable.

Optional forms of pension are provided on an actuarial equivalent basis.

Termination Benefits

An employee who has been a member of the plan or employed by an employer participating in the plan for a continuous period of at least 2 years, on termination of employment prior to retirement, would receive an immediate or deferred pension. In lieu of part of the pension an employee may elect to receive a lump sum that does not exceed one half of the member's accumulated contributions with interest as at December 31, 1993.

Upon termination, the pension benefit may be commuted.

Indexation Benefits

For pensions in respect of service accrued before 1999, and subject to there being funds available to provide it, the plan provides for future indexation equivalent to the lesser of 2% per year or the increase in the Consumer Price Index with the excess of 2% over the increases in the CPI carried forward on a cumulative basis. Indexing on post-1998 benefits may also be provided if funds permit, but this is a decision of the Commission and does not

happen automatically. The 2% increase for benefits in respect of pre-1999 service was paid at January 1, 2007 and 2008 – no increase was provided for benefits in respect of post-1998 service at these times.

In light of the solvency position revealed in the previous valuation, the Commission cancelled the automatic provision of 2% indexing on pre-1999 benefits effective June 1, 2009.

Disability

A member who is totally and permanently disabled and who has been away from work for a 2 year period may, on application, continue to accrue credited service without employee or employer contribution. In this event, the salary on which the pension is based will be increased from the date of disability based on the increase in the average Canadian salaries and wages. The waiver will cease on the member's unreduced retirement date.

Section 8 Actuarial Assumption and Methods

1. Economic Assumptions

The economic assumptions used in the minimum and maximum funding valuations are as follows. The assumptions are the same as used in the previous valuation, except where noted.

- a) *Inflation = 2.5% per annum.* This long-term assumption reflects long-term expectations in the marketplace at the valuation date, rounded to the nearest 0.1%. At the previous valuation we assumed inflation of 2.0% per annum.
- b) *Investment Return = 6.0%*, minimum funding valuation
Investment Return = 4.5%, maximum funding valuation
 The derivation of these assumptions is described in Sections 3 and 4, respectively.

At the previous valuation we assumed a rate of 6.5% for minimum funding and 4.0% for maximum funding.

- c) *Rate of salary increase*

We have assumed there will be universal salary increases of 4.5% per annum for three years and 3.5% per annum thereafter. The 3.5% provides for market-implied future inflation plus real salary increases at 1% above inflation. The 4.5% for the next three years recognizes that salary increases are expected to be higher than the Canadian average, at least in the short-term, due to the active Saskatchewan economy. For the previous valuation the assumed rate of general salary increases was 4.0% for the first four years and 3.0% thereafter (2% and 1% over inflation, respectively).

We have also allowed for promotional and merit increases as follows:

<u>Years of Service</u>	<u>General Members</u>	<u>Emergency Members</u>
1-5	2.0% per year	3.0% per year
6-10	1.5% per year	2.0% per year
11-15	1.0% per year	1.0% per year
16-20	0.5% per year	0.5% per year

- d) *Increase in CPP earnings ceiling and maximum pension*

We assumed that the CPP earnings ceiling (YMPE) would increase from \$47,200 in 2010 by 3.5% per year, which is consistent with the long-term assumption for salary increases. We have also assumed that the maximum pension per year of service permitted under the Income Tax Act would increase from \$2,494 in 2010 at 3.5% per annum, also consistent with the long-term assumption for salary increases. The assumed rate of increase for the YMPE and maximum pension at the previous valuation was 3.0% per year.

e) *Indexing of pensions*

We assume no indexing for pensions due to the cancellation in 2009 of the policy of automatic indexing for pensions earned for service prior to 1999. This cancellation was reflected in the 2008 valuation but prior to that we assumed that pensions earned for service prior to 1999 would be indexed at 2% per year in the future. No provision is made for future indexing of pensions for post-1998 service. This assumption is consistent with the terms of the Act and policies adopted by the Commission, and the inflation assumption used for the valuation.

2. Demographic assumptions

The demographic assumptions are the same as used at the previous two valuations. Gain and loss analysis does not indicate any need to revise the demographic assumptions.

a) *Retirement*

General Members

We have assumed that there is a 50% probability that general members will retire on first becoming entitled to an unreduced pension and a 50% probability that they will not retire until age 65. For those already entitled to an unreduced pension at December 31, 2009, we have assumed that there is a 50% probability that they will retire at June 30, 2010 and a 50% probability that they will retire at age 65.

Emergency Members

For the emergency members, we have assumed that 100% will retire when they are first entitled to an unreduced pension.

b) *Termination of Membership*

For the general members we have assumed terminations in accordance with a table of estimates, excerpts of which are as follows:

<u>Age</u>	<u>Annual Rate</u>
20	20.5%
25	15.5%
30	10.5%
35	6.5%
40	4.8%
45	4.3%
50	3.2%
55	1.2%

For the emergency members, we have used an assumption of 75% of the termination rates for the general members to recognize their generally lower turnover rates.

Future commuted values are assumed to be calculated using 5.0% interest and the valuation mortality table. This rate is based on current market yields for Government of Canada long bonds, annualized, plus 0.9% and rounded to the nearest 0.1%. This reflects a long-term expectation for commuted values consistent with the current Standards of Practice of the Canadian Institute of Actuaries with respect to commuted values from registered pension plans. In the previous valuation benefits paid out of the plan were implicitly assumed to be calculated using the valuation interest rate and mortality table.

We have assumed that 50% of terminating members will take a deferred pension while 50% will transfer the commuted value out of the plan. This is in line with recent experience. This assumption was not required at the previous valuation as the value of the lump sum and of the pension were the same.

c) *Mortality*

We have used the Uninsured Pensioners 1994 Mortality Table projected generationally using Projection Scale AA to represent the mortality of members both before and after retirement. This table is a commonly used table for pension valuation purposes and there is no reason to expect that mortality experience for members of this plan will be materially different from this table. In the previous valuation we used the 1994 Uninsured Pensioner mortality table with projection for mortality improvement to 2015.

d) *Proportion married and age of spouse*

We have assumed that 90% of male members and 70% of female members will be married at retirement and the male spouse will be 4 years older.

e) *Future Credited Service*

Members are assumed to accrue future credited service at the same rate as accrued in 2009.

f) *Disability*

The disabled members are valued separately. We assume that they will all stay disabled to their unreduced retirement date, retire at that date and that their imputed salary will increase with the assumption for universal salary increases (i.e., excluding merit increases). We have also provided them with full service credit, if not already included in the data, from July 1, 1988, or the date of disability if later, to December 31, 2009.

We have not made any allowance for future disabilities.

3. **Actuarial Method**

a) **Liabilities**

For both the minimum and maximum funding valuations, we have used the unit credit method to determine the plan's financial position. This was the method used at the previous valuation. Under this method, the actuarial value of the plan assets is compared with the actuarial present value of the pensions accrued in respect of service to the valuation date.

For pensioners and survivors, as well as for deferred and pending members, pension amounts were provided by the administrator and the actuarial liabilities were determined based on these amounts. For deferred and pending members, the liabilities also include any excess contributions each member is entitled to. These amounts were also provided by the administrator.

For active and disabled members, we take each individual, project his or her salary to retirement, determine the value of the pension and bridge benefit in respect of service to the valuation date and discount this back to the valuation date. We discount for interest but also for pre-retirement termination and death and the value of the termination and death benefits are determined in a manner consistent with the retirement benefit. The value of the member's benefits is compared to the contributions with interest. If the contributions with interest are greater than 50% of the value of the benefit, a pro-rata amount (on service) of the difference is allocated to the accrued liability.

Also under this method, the current service cost is the value of the benefits, which will be earned in

respect of the year of service following the valuation date. Similarly, an additional liability due to the "50% rule" is allocated pro-rata on service to the current service cost. Aside from experience different from assumed or changes in assumptions that may affect cost, an increase (or decrease) in the average age of the membership will increase (or decrease) the current service of cost.

The objectives of this cost method are the systematic accumulation over time of dedicated assets which, without recourse to the employers' assets, secure the Plan's benefits in respect of members' service already rendered, and the orderly and rational allocation of contributions among time periods.

Section 9 Membership Data Summary

Membership data were obtained from the Public Employees Benefits Agency, the administrator of the plan. The data were gathered and compiled as of December 31, 2009. They were reconciled and checked for consistency with the previous valuation data.

The data included pensionable salary and in-year credited service amounts for 2007, 2008 and 2009. We annualized the salary amounts by dividing the pensionable salary by the credited service in the year. If the 2009 salary was zero as it was for 286 of the active members, we assumed that it should be \$20,000.

1. Membership Reconciliation

A. ACTIVES

	<u>General</u>	<u>LTD</u>	<u>Emergency</u>	<u>Total</u>
At December 30, 2008	12,505	151	238	12,894
Retired	(133)	(5)	(6)	(144)
Termination & Deaths				
Deferred	(15)	(1)	0	(16)
Pending	(704)	(11)	(8)	(723)
Paid Out	(528)	(14)	(8)	(550)
Status Change				
General to LTD	(77)	77	0	0
LTD to General	37	(37)	0	0
General to Emergency	(1)	0	1	0
Emergency to General	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Members at December 31, 2009 who were active at December 31, 2008	11,084	160	217	11,461
New Members	1,538	2	19	1,559
Reinstatements from Pending	224	5	0	229
At December 31, 2009	12,846	167	236	13,249

B. PENSIONERS AND SURVIVORS

	Pensioners	Survivors
At December 31, 2008	3,244	803
Data adjustments	0	0
Deaths – with continuing payments to spouse	(47)	47
- with continuing payments to beneficiaries*	(4)	6
- with no further payments	(42)	(37)
New pensioners		
from general members	133	
from disabled members	5	
from emergency members	6	
from deferred pensioners	18	
from pending members	11	
from marriage split	2	
Other		
Temporary pension expired	(2)	
At December 31, 2009	3,324	819

* more than one beneficiary designated in some cases.

C. DEFERRED PENSIONERS

At December 31, 2008	1,839
Retired	(18)
Termination or death – paid-out	(227)
Transfer to pending members	0
Reinstated to general members	0
Transfer from general members	15
Transfer from LTD members	1
Transfer from pending members	263
At December 31, 2009	1,873

D. PENDING MEMBERS

At December 31, 2008	2,254
Retired	(11)
Termination or death – paid-out	(375)
Transfer to general members	(224)
to emergency members	0
to disabled members	(5)
to deferred pensioners	(263)
Transfer from general members	704
from emergency members	8
from disabled members	11
from deferred pensioners	0
Members who joined plan since Dec 31, 2008	209
At December 31, 2009	2,308

2. Membership Summary – Active General Males

Age		0-5	5-10	10-15	Service 15-20	20-25	25-30	30+	Total
16-24	Number	148	1						149
	Salary	4,491,278	81,242						4,572,520
	Avg Salary	30,346	81,242						30,688
25-29	Number	191	42	1					234
	Salary	7,295,136	1,938,138	98,319					9,331,592
	Avg Salary	38,194	46,146	98,319					39,879
30-34	Number	187	66	19	3				275
	Salary	7,764,842	2,994,795	848,720	157,838				11,766,196
	Avg Salary	41,523	45,376	44,669	52,613				42,786
35-39	Number	184	81	35	21	2			323
	Salary	7,522,625	3,735,465	1,697,340	1,049,677	100,524			14,105,630
	Avg Salary	40,884	46,117	48,495	49,985	50,262			43,671
40-44	Number	188	80	62	45	35	5		415
	Salary	7,260,845	3,401,818	2,941,133	2,411,056	1,933,988	219,172		18,168,012
	Avg Salary	38,622	42,523	47,438	53,579	55,257	43,834		43,778
45-49	Number	277	149	81	67	79	81	14	748
	Salary	9,812,025	5,970,216	3,592,559	3,061,052	4,412,298	4,136,329	805,190	31,789,668
	Avg Salary	35,422	40,069	44,353	45,687	55,852	51,066	57,514	42,500
50-54	Number	299	156	94	85	94	66	49	843
	Salary	10,988,739	6,057,900	4,302,807	3,964,958	4,969,723	3,648,047	2,717,763	36,649,937
	Avg Salary	36,752	38,833	45,775	46,647	52,869	55,273	55,465	43,476
55-59	Number	231	147	93	94	54	52	36	707
	Salary	8,272,557	5,642,556	4,155,436	4,142,799	2,637,311	2,888,460	1,923,005	29,662,124
	Avg Salary	35,812	38,385	44,682	44,072	48,839	55,547	53,417	41,955
60+	Number	209	166	54	53	32	31	48	593
	Salary	7,085,920	5,353,291	2,537,631	2,014,846	1,387,604	1,458,304	2,259,585	22,097,181
	Avg Salary	33,904	32,249	46,993	38,016	43,363	47,042	47,075	37,263
Total	Number	1,914	888	439	368	296	235	147	4,287
	Salary	70,493,966	35,175,421	20,173,944	16,802,227	15,441,447	12,350,312	7,705,543	178,142,860
	Avg Salary	36,831	39,612	45,954	45,658	52,167	52,555	52,419	41,554

3. Membership Summary – Active General Females

Age		0-5	5-10	10-15	Service 15-20	20-25	25-30	30+	Total
16-24	Number	271	3						274
	Salary	7,100,921	111,733						7,212,654
	Avg Salary	26,203	37,244						26,324
25-29	Number	432	55						487
	Salary	12,684,236	1,860,769						14,545,004
	Avg Salary	29,362	33,832						29,867
30-34	Number	527	176	31	1				735
	Salary	15,171,887	6,001,743	1,119,636	43,094				22,336,360
	Avg Salary	28,789	34,101	36,117	43,094				30,390
35-39	Number	639	264	70	18				991
	Salary	17,316,627	8,157,513	2,548,684	612,087				28,634,911
	Avg Salary	27,100	30,900	36,410	34,005				28,895
40-44	Number	690	416	128	47	64	3		1,348
	Salary	19,066,470	11,782,172	4,545,297	1,860,136	2,684,092	114,516		40,052,684
	Avg Salary	27,633	28,323	35,510	39,577	41,939	38,172		29,713
45-49	Number	626	584	237	145	100	58	4	1,754
	Salary	16,900,136	16,226,010	7,616,991	5,251,757	4,534,423	2,604,307	221,915	53,355,539
	Avg Salary	26,997	27,784	32,139	36,219	45,344	44,902	55,479	30,419
50-54	Number	421	370	225	175	148	66	24	1,429
	Salary	12,164,185	10,048,549	7,065,621	5,735,205	5,808,239	2,913,460	1,118,958	44,854,217
	Avg Salary	28,894	27,158	31,403	32,773	39,245	44,143	46,623	31,389
55-59	Number	260	247	111	128	148	65	28	987
	Salary	7,132,246	7,140,341	3,541,876	4,039,674	5,188,886	2,455,981	1,157,374	30,656,377
	Avg Salary	27,432	28,908	31,909	31,560	35,060	37,784	41,335	31,060
60+	Number	129	146	66	76	58	46	33	554
	Salary	3,606,451	4,088,395	2,142,842	2,309,314	2,123,519	1,525,085	1,164,406	16,960,012
	Avg Salary	27,957	28,003	32,467	30,386	36,612	33,154	35,285	30,614
Total	Number	3,995	2,261	868	590	518	238	89	8,559
	Salary	111,143,160	65,417,224	28,580,947	19,851,267	20,339,159	9,613,349	3,662,653	258,607,759
	Avg Salary	27,821	28,933	32,927	33,646	39,265	40,392	41,153	30,215

4. Membership Summary – Active Emergency Males

Age		0-5	5-10	10-15	Service 15-20	20-25	25-30	30+	Total
16-24	Number	7							7
	Salary	349,371							349,371
	Avg Salary	49,910							49,910
25-29	Number	20	7						27
	Salary	1,148,810	512,094						1,660,904
	Avg Salary	57,441	73,156						61,515
30-34	Number	14	24	5					43
	Salary	856,217	1,685,492	395,209					2,936,918
	Avg Salary	61,158	70,229	79,042					68,300
35-39	Number	10	8	17	8	1			44
	Salary	594,694	545,325	1,360,461	684,218	89,137			3,273,834
	Avg Salary	59,469	68,166	80,027	85,527	89,137			74,405
40-44	Number	4	3	10	9	6			32
	Salary	256,905	212,147	783,806	591,463	563,554			2,407,875
	Avg Salary	64,226	70,716	78,381	65,718	93,926			75,246
45-49	Number	5	2	2	4	8	3		24
	Salary	350,732	114,150	118,028	280,156	706,881	257,968		1,827,916
	Avg Salary	70,146	57,075	59,014	70,039	88,360	85,989		76,163
50-54	Number	3		1	5	2	5	5	21
	Salary	196,863		80,333	340,919	167,636	402,080	475,499	1,663,329
	Avg Salary	65,621		80,333	68,184	83,818	80,416	95,100	79,206
55-59	Number	2	2		1		3		8
	Salary	135,152	89,885		57,518		205,620		488,175
	Avg Salary	67,576	44,943		57,518		68,540		61,022
60+	Number	2			1			1	4
	Salary	108,146			74,997			87,481	270,624
	Avg Salary	54,073			74,997			87,481	67,656
Total	Number	67	46	35	28	17	11	6	210
	Salary	3,996,890	3,159,093	2,737,838	2,029,271	1,527,207	865,668	562,980	14,878,946
	Avg Salary	59,655	68,676	78,224	72,474	89,836	78,697	93,830	70,852

5. Membership Summary – Active Emergency Females

Age		0-5	5-10	10-15	Service 15-20	20-25	25-30	30+	Total
16-24	Number								
	Salary								
	Avg Salary								
25-29	Number	2	1						3
	Salary	88,516	76,543						165,059
	Avg Salary	44,258	76,543						55,020
30-34	Number	2	2						4
	Salary	55,272	94,891						150,162
	Avg Salary	27,636	47,445						37,541
35-39	Number		2	2					4
	Salary		102,979	176,607					279,586
	Avg Salary		51,489	88,304					69,897
40-44	Number	2	4	1		1			8
	Salary	98,424	260,266	52,568		77,938			489,197
	Avg Salary	49,212	65,067	52,568		77,938			61,150
45-49	Number	2	1		1				4
	Salary	98,678	80,414		84,465				263,558
	Avg Salary	49,339	80,414		84,465				65,889
50-54	Number		1	1		1			3
	Salary		54,024	56,700		97,034			207,758
	Avg Salary		54,024	56,700		97,034			69,253
55-59	Number								
	Salary								
	Avg Salary								
Total	Number	8	11	4	1	2			26
	Salary	340,891	669,116	285,876	84,465	174,972			1,555,320
	Avg Salary	42,611	60,829	71,469	84,465	87,486			59,820

6. Disabled Members

<u>Age</u>	<u>Males</u>			<u>Females</u>		
	<u>Number</u>	<u>Pensionable Service</u>	<u>Average Salary</u>	<u>Number</u>	<u>Pensionable Service</u>	<u>Average Salary</u>
0-24	2	0.81	32,482	-	-	-
25-29	1	1.44	37,535	3	5.98	25,496
30-34	1	6.98	26,604	7	43.00	34,756
35-39	1	11.57	39,236	3	6.50	37,360
40-44	1	17.75	39,479	14	82.67	25,959
45-49	9	91.65	34,947	26	227.90	31,267
50-54	11	157.53	47,307	18	188.39	29,516
55-59	14	155.73	40,093	20	205.41	24,866
60-64	22	228.23	34,700	12	136.48	27,904
65+	1	6.51	36,856	1	0.62	20,071
Total	63	678.20	38,163	104	896.95	28,767

7. Pensioners

<u>Age</u>	<u>Males</u>			<u>Females</u>		
	<u>Number</u>	<u>Monthly Pension</u>	<u>Monthly Bridge</u>	<u>Number</u>	<u>Monthly Pension</u>	<u>Monthly Bridge</u>
0-49	7	10,791	1,593	1	1,927	161
50-54	60	114,745	18,621	29	40,413	8,228
55-59	149	261,736	42,931	126	127,315	26,859
60-64	220	348,114	59,705	281	204,053	45,479
65-69	400	421,085	115	315	180,107	80
70-74	397	347,384	0	232	116,559	0
75-79	367	304,927	0	161	73,317	0
80-84	238	156,150	0	99	45,681	0
85-89	127	64,784	0	55	19,507	0
90-94	35	15,620	0	18	3,794	0
95+	5	820	0	2	521	0
	2,005	2,046,156	122,964	1,319	813,193	80,806

8. Survivors

<u>Age</u>	<u>Males</u>			<u>Females</u>		
	<u>Number</u>	<u>Monthly Pension</u>	<u>Monthly Bridge</u>	<u>Number</u>	<u>Monthly Pension</u>	<u>Monthly Bridge</u>
0-49	18	6,826	0	23	12,194	628
50-54	4	1,361	0	7	4,783	228
55-59	2	855	161	11	9,653	585
60-64	8	2,146	146	35	25,473	676
65-69	10	6,701	413	67	43,426	810
70-74	8	3,006	0	99	47,394	0
75-79	16	5,089	0	163	75,492	0
80-84	12	3,049	0	136	37,150	0
85-89	13	2,313	0	127	32,362	0
90-94	4	387	0	48	8,358	0
95+	1	128	0	7	1,071	0
	96	31,861	719	723	297,357	2,928

9. Deferred

<u>Age</u>	<u>Males</u>			<u>Females</u>		
	<u>Number</u>	<u>Monthly Pension</u>	<u>Monthly Bridge</u>	<u>Number</u>	<u>Monthly Pension</u>	<u>Monthly Bridge</u>
0-24	3	76	0	3	72	0
25-29	27	1,845	0	39	1,787	0
30-34	56	7,651	102	86	8,722	0
35-39	79	16,521	0	126	15,992	0
40-44	107	26,923	885	179	29,817	1,272
45-49	177	47,845	2,620	187	35,631	1,895
50-54	153	55,731	5,345	189	50,615	4,265
55-59	125	39,077	2,194	136	30,567	1,402
60-64	96	27,492	1,265	74	14,964	915
65+	21	3,169	31	10	1,224	1
	844	226,330	12,442	1,029	189,390	9,750

10. Pending

Age	Males			Females		
	Number	Monthly Pension	Monthly Bridge	Number	Monthly Pension	Monthly Bridge
0-24	92	1,549	0	90	1,195	0
25-29	97	6,034	64	187	8,191	0
30-34	102	8,838	3	199	16,966	63
35-39	89	12,507	517	157	15,960	0
40-44	117	21,106	1,293	144	18,437	392
45-49	151	33,954	3,419	170	23,674	1,763
50-54	166	36,326	3,627	133	27,509	3,322
55-59	135	26,205	2,353	84	18,495	1,744
60-64	117	34,648	4,134	31	6,552	745
65+	40	10,899	130	7	1,021	16
	1,106	192,066	15,541	1,202	137,999	8,046

Section 10 Actuarial Opinion

with respect to the Saskatchewan Municipal Employees Pension Plan forming part of the actuarial report dated August 23, 2010 on a valuation of the plan as at December 31, 2009.

In my opinion:

- a) the plan has a surplus of \$73.850 million at December 31, 2009, while on a solvency basis the plan has an excess of \$9.103 million.
- b) the pension fund also provides annuities in respect of money-purchase accounts under the former municipal employees' pension plan. As required by the Canada Revenue Agency to ensure that no additional funding is made in respect of these benefits, the part of the fund which supports these annuities is separately accounted for and the liabilities have been valued separately in our report on the Annuities Underwritten by the Municipal Employees' Pension Plan dated August 23, 2010. When the annuities, and the assets supporting them, are included, on a going-concern minimum funding basis there is a surplus of \$73.098 million; on a solvency basis there is an excess of \$4.937 million.
- c) the rule for computing the employer normal cost contribution for each year from January 1, 2010 to December 31, 2012 is that employers should match the contributions made by the members. Estimated member contributions in 2010 are \$26.977 million, in 2011 are \$31.248 million. Total employer and employee contributions are not sufficient to meet the full costs of the benefits accruing in these years but a reserve of \$10.893 million has been established to fund the shortfall for the three years from the valuation date and the financial position of the plan was determined after the establishment of this reserve.
- d) the plan has a solvency excess at the valuation date; the solvency ratio is 1:1.
- e) the value of the plan assets would be less than the actuarial liabilities if the plan were to be wound-up on the valuation date.
- f) the next valuation must be prepared no later than December 31, 2012.

Notwithstanding the above, emerging experience which differs from the assumptions on which this opinion is based will result in gains or losses which will be revealed in future valuations.

In my opinion:

- a) the data on which the valuation is based are sufficient and reliable for the purposes of the valuation,
- b) the assumptions used are, in aggregate, appropriate for the purposes of the valuation, and
- c) the methods employed in the valuation are appropriate for the purposes of this valuation.

This report has been prepared and my opinion given in accordance with accepted actuarial practice in Canada.

Date

Sept. 3, 2010

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

Section 11 Administrator's Certification

of the membership data submitted to Eckler Ltd. in connection with the actuarial valuation of the Saskatchewan Municipal Employees' Pension Plan as at December 31, 2009.

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 data supplied to the actuary provides 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.
- c) All events including those subsequent to the date of the valuation that may affect the results of the valuation have been communicated to the actuary.

August 26, 2010
Date


Public Employees Benefits Agency
Plan Administrator

Appendix A Reconciliation 2007 – 2008

At the valuation effective December 31, 2007, the surplus reported in the minimum funding valuation was \$75,933,000. As of December 31, 2008 there is a surplus of \$121,782,000 under the minimum funding valuation. The changes in financial position may be summarized as follows:

	\$000's
Surplus at December 31, 2007 (the "previous valuation")	\$75,933
Interest on surplus at 6.0% for one year	4,556
Fund earning less than 6.0% ¹	(178,814)
Change in assumptions ²	100,813
Demographic experience ³	(7,023)
Salary loss ⁴	(3,213)
Interest credits on contributions less than assumed ⁵	17,995
Pensioner mortality gain ⁶	679
New entrants ⁷	709
Expense reserve ⁸	(2,988)
Liability reserve ⁹	(14,692)
Increase in contributions ¹⁰	12,158
Removal of indexing ¹¹	112,538
Change in 50% rule attribution ¹²	5,105
Balancing item ¹³	<u>(1,974)</u>
Surplus at December 31, 2008 ("this valuation")	\$121,782

Notes:

1. In 2008, the fund earned, on the basis of the "actuarial" asset values used in the minimum funding valuation, a rate of return net of investment expenses of -7.78% compared with the 6.0 % assumed in the previous valuation. This has produced an investment loss of \$178,814,000.
2. The valuation interest rate has been increased to 6.5% from 6.0%. In addition, the assumed annual inflation rate has been reduced from 2.2% at the previous valuation to 2.0%. The salary increase assumption for the four years following the valuation date continues at 2% above inflation reducing to 1% above inflation thereafter. The effect of these changes is a reduction in the liabilities of \$100,813,000.
3. We reran the previous valuation for the active members assuming that we had correctly forecast all the decrements and resulting benefit payments. We also considered the impact on the liabilities for those who moved from pending back to active status. On that basis we determined that the liabilities determined at December 31, 2007 were less than the required amount. The difference amounts to \$7,023,000 at December 31, 2008.
4. We reran the 2008 valuation for the active members common to both this valuation and the previous valuation, using the actual 2007 salaries and the 2008 YMPE, increased by the assumed rates for one year. The liabilities were less than those produced using actual 2008 salaries and the 2009 YMPE. The difference amounts to a loss of \$3,213,000 at December 31, 2008.

5. In the previous valuation, we assumed that interest credited to member contribution accounts would be 6.0% per annum in the future. In 2008 the actual rate credited was -16.23%. Therefore, contribution accounts were lower than expected as were liabilities under the 50% rule. We estimated the gain to be \$17,995,000 at December 31, 2008.
6. There was a small gain on pensioner and survivor mortality of \$679,000 in 2008.
7. New entrants in the period who are still active at the valuation date accrued fewer benefits than the accumulated matching contributions and amounts from the reserve to fund excess current service costs. We estimate the excess to be \$709,000 at December 31, 2008.
8. At December 31, 2007, we established a reserve for expenses of \$7.080 million. If we add interest to this amount at 6.0% and debit the result by the expenses actually paid, the remaining reserve is \$4.575 million while the required reserve is \$7.563 million. The difference of \$2.988 million is a reduction to the surplus.
9. Similarly, we established a reserve of \$38.071 for the shortfall in contributions for the years 2008 through 2010. Adding interest at 6.0% and debiting the result by the amount required to fund the shortfall in 2008, the amount remaining at December 31, 2008 is \$26.132 million. But under the minimum funding valuation, before the change in the interest and salary assumptions, the reserve required (before considering the increase in contributions) is now \$40.824 million – a difference of \$14.692 million.
10. Due to the increase in contributions effective January 1, 2010, and the increase recommended for January 1, 2011, the reserve required for the shortfall in contributions for 2009 through 2011 is decreased by \$12.158 million.
11. Due to the existence of a shortfall on the solvency valuation, the Commission has cancelled future additional allowances effective June 1, 2009. The change in assumptions to reflect this reduces the liabilities by \$112.538 million.
12. We changed our method of attributing the additional liability determined under the 50% rule. This has the effect of increasing the accrued liabilities and of decreasing the current service cost. The net effect on accrued liabilities, due to a reduction in the reserve held for the excess of current service cost over contributions is a reduction in liabilities of \$5.105 million.
13. This reconciliation involves a number of approximations and the balancing item of (\$1,974,000) represents less than 0.2% of liabilities and reserves.